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# Redistribution and sustainability: competing imperatives in the South African hake fishery

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## Abstract

Since the change of government in 1994 the South African fishing industry has had at the forefront of its objectives the need to transform its ownership profile and grant access to those who were previously barred from entering the fisheries. The chosen mechanism to do this has been through redistribution of fishing rights in favour of smaller new entrant firms owned by those who were previously excluded due to race. The rationale for redistribution exists as long as the industry is not sufficiently transformed and currently the Minister of the Department of Agriculture, Forestry and Fisheries (DAFF) believes that it is not. This paper focuses on the hake fishery and investigates to what extent the fishery has been transformed. It then discusses the institutional structure and incentive schemes in the fishery and evaluates the economic, social, and environmental impacts of quota redistribution.

It concludes that the hake fishery has made significant progress in transformation and that the Minister's claims that further redistribution is needed are false. Due to the interrelated intricacies of the fishery industry, further redistribution will have severe consequences on the State's objectives of economic efficiency, social reform, and environmental sustainability. Transformation would be better served by maintaining the existing oligopolistic structure of the fishery and putting incentives in place that encourage the larger quota holders to transform internally.

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## Acronyms

ANC	African National Congress
CEO	Chief Executive Officer
DAFF	Department of Agriculture, Forestry, and Fisheries
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
ECM	Effort Control Model
EEZ	Exclusive Economic Zone
FTC	Fisheries Transformation Council
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GNU	Government of National Unity
HDI	Historically Disadvantaged Individual
HDST	Hake Deep Sea Trawl
HHL	Hake Handline
HIST	Hake Inshore Trawl
HLL	Hake Longline
ITQ	Individually Tradable Quota
LTR	Long Term Rights
MCM	Marine and Coastal Management
MCS	Monitoring Control and Surveillance
MD	Managing Director
MEY	Maximum Economic Yield
MLRA	Marine Living Resource Act
MPA	Marine Protected Area
MSC	Marine Stewardship Council
MTR	Medium Term Rights

NCAFWU	National Certified Fishing and Allied Workers Union
NP	National Party
PAMCFR	Policy for the Allocation and Management of Commercial Fishing Rights
RDP	Reconstruction and Development Programme
SADSTIA	South African Deep Sea Trawling Industry Association
TAC	Total Allowable Catch
UNCLOS	United Nations Convention on Law of the Sea
WSSD	World Summit on Sustainable Development

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# 1. Introduction

Management in the fishing industry is particularly complex due to the environmental sensitivity of the resource that it is founded on. Excess fishing effort leads to unsustainable exploitation and may threaten the rents from the industry, while under exploitation leads to an opportunity cost on the industry of rents that could have been gained. Fisheries management faces a challenging task of balancing a triple bottom line of maximizing economic efficiency and wealth creation, enhancing socio-economic gains, and ensuring the sustainability of the resource. Frequently gains in one of these goals cannot be achieved without sacrificing progress in another. The challenge of fisheries management is to strike an appropriate balance such that the industry is able to offer the maximum societal and economic benefit without threatening its future gains or stability.

South Africa's fishing industry forms a significant component of the economy contributing around 1% of GDP (Moolla, 2007, 2). The hake deep sea trawl (HDST) sector is the most valuable within the industry contributing the largest share of revenues and export value from the fisheries. It is a mature and well established sector whose success is attributed to a long history of development and to its concentrated duopolistic market structure. The two largest firms in the HDST together control over 50% of the total quota.

In the past decade the dominance of these two firms has been threatened by redistribution policies of the State. Prior to the 1994 democratic elections the hake quota was almost exclusively controlled by white capital. After the change of government, fisheries management began on a process to redesign fishery policies with the goal of reforming ownership in the fisheries to better reflect the population demographics of South Africa. Through the allocation of five year rights in 2001, and 10 to 15 year rights in 2006 the fisheries management made significant progress in transforming the industry to increase the amount of quota controlled by historically disadvantaged individuals (HDI). After the 2006 allocations, some of the smaller fisheries were reporting over 90% HDI ownership while the trawl sectors were nearly half owned by HDIs. The fishing industry has subsequently emerged as one of the most highly transformed of all major industries in the South African economy.

Despite this progress, since 2010 the Minister of the Department of Agriculture, Forestry and Fisheries (DAFF) has been calling for further transformation in the fisheries stating that

current levels are inadequate. The method proposed to achieve this transformation is further redistribution of quota from dominant quota holders to smaller new entrant firms predominantly owned by HDIs.

The fragmentation of quota; increasing the number of participants and decreasing the average size of quota holding, has a series of negative consequences to the industry and especially to the capital intensive and vertically integrated sectors such as the HDST. This paper aims to investigate these consequences in the hake fishery of South Africa with an emphasized focus on the HDST sector. The paper addresses the institutional structures and incentive system that exist in the fishery and investigates how policies of redistribution of quota may affect these and therefore the success of the fishery. The use of neoclassical economic tools is limited in this regard and the paper is primarily discursive in nature. Information and analysis is based on interviews with leading figures in the fishery, an evaluation of government policies, and previously published sources. The paper first introduces a background to the industry and the hake fishery in section 2. In section 3 it investigates the process and criteria surrounding 2001 and 2006 rights allocations and interrogates the rationale behind the Minister's claims for further transformation. Section 4 discusses the consequences that would accrue were the State to continue and extend its policies of quota redistribution.

When designing policies to achieve the goals of the State cognizance needs to be given to the complexities that the fishing industry presents. The objectives of economic efficiency, environmental sustainability and social reform are intricately interrelated and any policy that seeks to target any one exclusively may have severe consequences for the others. Social reform through increased access to the fishing industry will only be to the benefit of the new rights receivers if these policies do not threaten the wealth creation or environmental sustainability within the industry. By redistributing quota beyond the point where the industry is able to absorb the consequences thereof will result in net negative outcomes for all three of the State's broad objectives.

## **1.1 Methodology**

This dissertation is based on a series of personal interviews with leading participants in the hake fishery. The information gleaned in the course of these interviews, together with a body of theory and opinion collected in a literature survey, then informed an analysis of the quota distribution data in the hake fishery. The literature used was a mix of formal and popular including academic papers, government publications and newspaper articles.

Interview candidates were selected for their relevance to the industry, they included three representatives from the trawl sector, a representative from Marine and Coastal Management, and an independent fishery consultant who was previously involved in the designing of the quota redistribution policies. All interviews were conducted in person.

## **1.2 Potential limitations and biases**

In investigating the topic of quota redistribution in the hake fishery this paper clearly faced certain limitations. Firstly, there is not much formal literature available on the topic, especially since the long term rights allocations of 2006. Added to that, no official analysis of the rights holders has been published since the long term rights applications process. This means that the comparative transformation statistics used in this paper may be outdated. Where changes since 2006 are known these have been discussed.

The selection of the interviewees also shows a potential bias as four of the five now represent the interests of the large fishing firms within the industry. The new small-scale entrants to the fishery were not interviewed; the focus of the research being their impact on rents in the industry as a whole and the health of the resource. The views, plans and priorities of government and its agents have not been ignored, however. They have been so widely published in policy documents and press statements that personal interviews were not deemed necessary.

## 2. The hake fishery

### 2.1 Brief history: the evolution of industry and regulations

The modern demersal trawl industry was first recorded in 1904 with only four trawling vessels. Only two years later in 1906 refrigerated rail trucks were already moving hake to Johannesburg, and by 1922 Irvin and Johnson (I&J) had established their dominance in the industry deploying 22 vessels. In the formative years of the industry I&J were able to enjoy almost exclusive access to the resource due to the natural entry barriers of high capital requirements (Fairweather, 2001, 1. Warman Fishing Industry Handbook, 2010, 60).

In 1940 the state of South Africa (hereafter referred to as 'the State') took control of the fishing industry as a national, rather than provincial, concern and in 1943 the Fishing Industry Development Bill was proposed to nationalise the hake deep-sea trawl fishery (HDST) in order to promote higher wages and a cheaper source of food for the working class. However, I&J was able to lobby enough support to have the bill turned down and have them retain control over the industry as a private operation (Ponte & van Sittert, 2007, 443).

Ten years later the total annual catch in the industry first broke through the 100,000 ton record and reached its 300,000 ton peak during the early 1970s. These numbers need to be read with caution however, as although stated as the catch in the South African industry, this was before the 200nm Exclusive Economic Zone (EEZ) was established in 1978 and the numbers may fail to capture the effect of foreign fleets fishing in waters then outside of the South African territorial zone. The lead-up to this peak started in the early 1960s when, on the back of burgeoning consumer demand and new methods of processing and marketing fish products, the fishing effort increased exponentially. An influx of foreign fleets allowed by open access to what are now South African waters exaggerated the problem, as did new technologies and increasing capacity. I&J, as the sole large local firm, was forced to quickly adapt and match the fishing effort and capacity of foreign firms (Ponte & van Sittert, 2007, 444). The result of this escalating capacity was a fishing effort race to the bottom, and fishing stocks suffered severely.

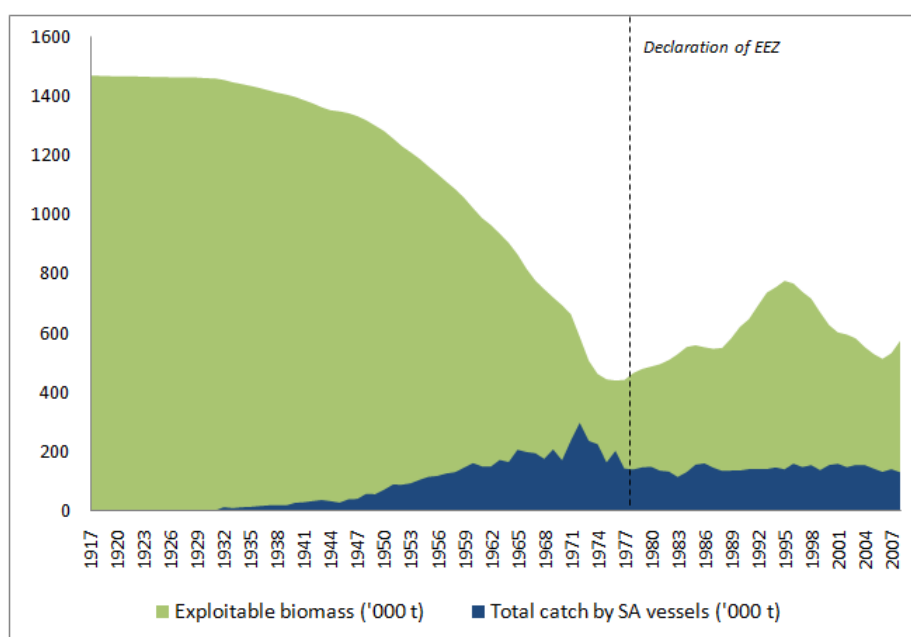
Before the entry of foreign vessels, there was little threat to the sustainability of the resource and existing firms within the industry had no reason to curtail their catches. Their targeted catch was equivalent to their total capacity. If the concept of sustainable yield had been in play then, as the dominant harvester in the industry, it would have been in I&J's own

interest to self-monitor their catch effort and ensure that their fishing effort conformed to the maximum economic yield. The benefits of any stock saving or recovery would be reaped by I&J as it would impact directly on their future catch levels. The need to do this however, only showed later when foreign vessels entered the South African waters and the resource was exploited at unsustainable rates. Open access to foreign vessels meant that at a time when I&J needed to be the custodians of the resource, they no longer had an assurance that mitigation efforts would reap benefits. It became in their interest to increase fishing effort and capacity before foreign vessels depleted the resource. This classic tragedy of the commons situation brought catch levels to an all time peak at 300,000 tons by the early 1970s although by then the South African contribution to South East Atlantic hake catch had fallen from 95% to 15%. The implications of this historic stock depletion have been long-lasting: despite nearly 20 years of active catch controls the total allowable catch (TAC) for the fishing industry in 2011 was only 131,780 tons, less than half of the annual catch in the 1970s (Ponte & van Sittert, 2007, 442).

In the interests of food security and the retention of the fishing industry as a crucial source of foreign income, hake was declared a strategic national resource and in 1978 an Exclusive Economic Zone (EEZ) of 200nm from the South African coast was declared. The EEZ meant that South Africa had sovereign control of the ocean and rights to its resources up to 200nm from the coast. Foreign vessels were permitted to fish in these waters but only with consent from the State. In 1978 fisheries management implemented a TAC limit for the first time, in this year capped at 140,000 tons. The following year individual quota allocations per company were introduced and were primarily based on historical fishing performance of each firm (Ponte & van Sittert, 2007, 442).

In 1983 foreign vessels were excluded completely from South African waters and although the catch per unit effort (CPUE) stabilised it never properly recovered. This suggests that, given current means of controlling harvests, the overfishing of the 1970s may have inflicted permanent damage on the biomass and spawning capacity of the hake stock (Ponte & van Sittert, 2007, 444).

Figure 1 shows the landed catch levels of hake as well as its estimated biomass since 1917. The diagram shows clearly how over exploitation of the resource has led to a substantial decrease in biomass although the lack of clear correlation between biomass and catch levels after 1989 show that the sector is also subject to large natural fluctuations.



**Figure 1:** Total biomass and catch of hake by South African vessels in the waters of South Africa since 1917 (MAREM, University of Cape Town, 2010).

In 1994 the South African government went through a major transition from strictly white rule under Apartheid to a new open majority rule government with a mandate to reverse the discriminatory outcomes of the past. The primary focus of the fishing industry management shifted from challenges of biomass conservation to challenges of socio-economic reform. Between the introduction of quota management in 1978 and the change of government in 1994, fishing rights in the trawl fisheries had only been allocated to persons classified as 'white', to public companies, or to firms owned and controlled by white people. This resulted in approximately 300 applications for fishing rights annually. When Apartheid came to an end the South African government and the fisheries management needed to address the inequality of rights allocation. In 1998 the Marine Living Resources Act (MLRA) was implemented with equity and sustainability as its primary goals. This broadening of access to the fishing resource resulted in a total of 11,989 applications for annual fishing rights; nearly a 4,000% increase over the applications under the pre-Apartheid legislation (Kleinschmidt et al, 2003, 26).

This vast increase in numbers threw the fisheries management system into a state of flux and both the effectiveness and credibility of its objectives suffered. Among the results, according to some observers, were declines in investor confidence, widespread poaching and misreporting of catch; problems that also affected the hake fishery. Quota was allocated on an annual basis which allowed the State flexibility to quickly change the

structure of the quota holders. Such short term rights proved problematic however as the quota allocated was not valuable enough to provide surety for the loans required to invest in the industry, the lack of stability made it difficult to compete internationally, and it provided little incentive for players to preserve the resource stock as they had no guarantee of future involvement in the industry. The Department of Environment and Tourism (hereafter referred to as 'the Department'), then the ministry responsible for fisheries management, acknowledge that the existing structure of quota allocation was problematic and in 2000 appointed a new team to design an effective management system for the fisheries (Siyema, 2010, 8).

In order to provide stability while attempting to restructure the industry, it was decided to grant medium term rights (MTR) for the period 2002 to 2005, and to follow this allocation with long term rights (LTR) of between 8 and 15 years taking effect in 2006. The Department also increased the application fee for rights, and claimed that it would increase the robustness of the verification of applicants. Rights were to be awarded according to a predetermined set of criteria designed by the Department which included requirements regarding investment, performance, responsible environmental practices and transformation. Through the weighting of these criteria the Department intended to shape the characteristics of firms within in the industry and steer the demographics of rights holders to better reflect the population of South Africa.

The result of this process was that in total, across all 22 fisheries, 5,496 applications were received for the MTR allocation. After the process of appeal 2,162 applicants were granted fishing rights for the four year period. In the hake industry specifically a large degree of transformation was achieved. After the MTRs allocation 74% of the firms holding fishing rights in the HDST sector were majority owned by HDIs and 53% of firms had a management team comprising of more than 50% HDIs. The hake long-line fishery (HLL), due to its suitability to medium sized enterprises, was even more transformed with 90% of the TAC being allocated to companies that are majority owned by HDIs (Kleinschmidt et al, 2003, 32).

The MTR allocation process was followed in 2005 with the allocation of LTRs. Further successes with regard to redistribution were achieved and the fishing industry became one of the most transformed industries in South Africa. Despite this however the government (in particular the new management team in the Department of Agriculture, Forestry and Fisheries) is still insistent that further transformation is needed.

In 2006 the South African fishing industry accounted for R4.4bn, or just under 1%, of GDP. This was raised from a landed catch of approximately 636,000 tons across 22 commercial fisheries (Moolla, 2007, 2). Of this catch the hake fishery was the most valuable contributing 40% of total industry value though small pelagic (anchovy, sardine, and red eye herring) constitute the largest quantum of physical catch at approximately 500,000 tons (BCLME, 2005, 5).

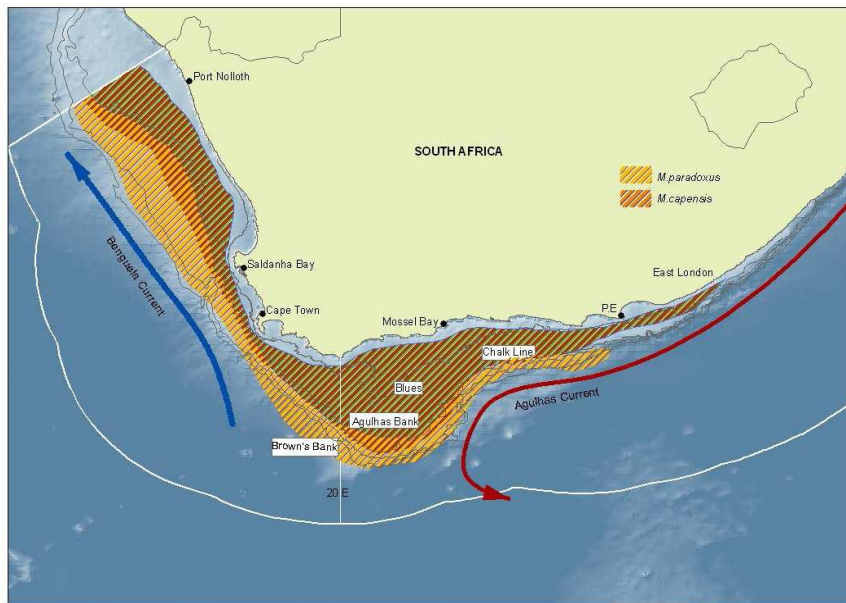
The industry has 2,990 rights holders, makes use of approximately 1,400 vessels and total insured fixed assets of the industry add up to around R12 billion. Forty three thousand people are employed directly through the industry and in 2006, 18% of fish products worth a total of R787 million were exported making the industry a significant contributor to foreign exchange inflows into the country (Moolla, 2007, 2).

While policies of redistribution and fragmentation of quota holding have, up until this point, aided the turnaround in the ownership profile of the industry without severely upsetting its stability, any further fragmentation and decentralisation of operations are a threat to the benefits that the industry contributes to the economic and social wellbeing of South Africa.

## 2.2 The development of the hake fisheries

There are two main hake species fished in the South African waters; deep water Cape hake (*Merluccius paradoxus*) and shallow water Cape hake (*Merluccius capensis*) (Leiman & Arnoni, 2006, 4). The former species inhabits deeper waters ranging from 140 to 850m while the latter are generally found no deeper than about 440m. *Merluccius paradoxus* is found in the colder waters of the Benguela current along the west coast of Africa as far up as Angola and overlaps slightly around the warmer south coast of South Africa. *Merluccius capensis* is predominantly found along the south coast of South Africa and in some parts of Mozambique although stocks do extend up the west coast into parts of Namibia (Grant et al, 1987, 9). While there are genetic differences between the two these are negligible in a commercial context. Consequently the two species will be treated as a common stock for the purposes of this paper. Harris & Leiman (2006, 9) citing official estimates, suggest a biomass of *Merluccius paradoxus* in South African waters at roughly 200,000 tons while that of *Merluccius capensis* at 600,000 tons.





**Figure 2:** Species distribution for southern African hake showing approximate overlap in depth ranges (Japp, 2008, 7).

The hake fishery represents a significant portion of the total fish caught in South Africa. Of total trawl catches, hake represented 80-90% of catches made along the west coast (mostly *Merluccius paradoxus*), and 60-80% of catches made along the south coast (mostly *Merluccius capensis*) (BCLME, 2005, 19). In 2009 the total hake catch was 106,661 tons (Warman Fishing Industry Handbook, 2010). The hake fishery exports a significant percentage of its catch and in 2010 South African frozen hake was exported to 26 nations, the most significant of which were Spain, Portugal and Italy. Measured by tonnage, European destinations accounted for 95% of this market, while Spain alone accounted for 45.1% (trademap.org).

Since the hake longline sector (HLL) was introduced to help support transformation, the hake fishery in South Africa has been divided into four separate sectors, each with its own method of fishing and unique policy requirements. These are the hake deep sea trawl (HDST), hake inshore trawl (HIST), HLL, and hake hand line (HHL) fisheries. The outcomes of the LTRs shown in appendix 1 give a broad overview of the differences between the HDST, HIST and HLL fisheries. Each sector is discussed in further detail below.

### 2.2.1 Hake deep sea trawl

The HDST sector is by far the most valuable sector in the South African fishing industry. It accounts for approximately 50% of all value gained from fisheries with an annual landed value of about R2.2 billion (Ponte and van Sittert, 2006, 441). In 2009 the HDST accounted for 87% of all hake caught (Warman Fishing Industry Handbook, 2010).

The sector is a demersal trawl, i.e. a 'drag fishery' in which nets are pulled along the sea bed. Trawled hake is caught and either frozen on board by freezer trawlers, or landed on ice if caught by wetfish vessels. Trawled hake allows for many processing options; it can be sold gutted with head on or off, filleted or processed into a range of value added products. Broken or damaged fish are converted into fishmeal and can also contribute a significant revenue stream for fishing firms (Leiman & Arnoni, 2006, 4). One of the consequences of redistribution policies and the downsizing of firms is that less hake is being sold as value added products with smaller firms favouring the simpler processing options.

The increasing proportion of vessels capable of onboard processing and flash freezing has mean that approximately one third of all hake caught through deep sea trawl are processed at sea into the final product. The other two thirds of fish caught is stored on ice until it is landed and transported to land based processing plants. There are more than 50 such plants servicing the hake industry along the South African coastline (Ponte and van Sittert, 2006, 441) although the two biggest are run by the two market dominating firms, Irvin & Johnson (I&J) and Seaharvest, and are located in Cape Town and Saldanha Bay.

The average crew size on a freezer trawler is 46 workers, while on a wetfish vessel it is only 25, and on average the HDST employs 62 workers at sea per thousand tons of fish caught. However, this understates the employment impact of wetfish trawl operations as the onshore to offshore employment ratio is about 3:1. The outcome is that wetfish operations have the highest employment per thousand ton ratio within the hake fishery (Siyema, 2010, 13). Shore based operations employ a higher proportion of female workers as offshore fishing and processing is better suited to male workers while females have been found to be better than their male counterparts in shore based processing (Leslie, pers. com, August 2010).

The average annual income on board a deep sea vessel is R63,000 and the majority of employees are employed on permanent, year round salary contracts with the appropriate

employment benefits. Ninety percent of jobs in the HDST are held by HDIs and 40% by women.

Other studies of transformation and demographics show that after the MTR allocation 74% of the quotas issued were allocated to HDIs, and 42% to small and medium enterprises (SME). In terms of actual catch, however, one quarter of the TAC, or a financial value of R410 million, accrued to HDIs (BCLME, 2005, 20).

The HDST sector is highly capital intensive and the total insured capital value is estimated at above R2 billion. Vessels typically range between 23m to 56m in length although 66% of these are between 45m and 50m (BCLME, 2005, 20). The high cost of a fishing vessel makes access to the fishery difficult for smaller companies and joint ventures are effectively mandatory for smaller rights holders wanting to enter the HDST sector. Fishing in the HDST sector is also more complex than other fisheries whose operations take place closer to land. Wetfish trawlers spend approximately six days at sea landing about 50 tons of fish per voyage while freezer trawlers can spend up to two months at sea landing 500 tons of fish or processed products. Trawl grounds are well known by the experienced skippers and there are few, if any, suitable fishing grounds that are still not harvested. Despite trawling being a fairly blunt practice of dragging a net across the ground, the best skippers with the right equipment are able to target not only certain species of fish but also certain sizes. For firms who are vertically integrated enough to be sensitive to market demand, this allows them to respond to changes in demand immediately even while at sea (Fairweather, 2001, 5).

The four quota holders in the HDST who dominate the sector and give it a characteristically oligopolistic structure are I&J with 32.5% of the quota, Seaharvest with 24%, Atlantic Trawling with 7.5%, and Foodcorp with 5% (Warman Fishing Industry Handbook, 2010, 2010). This level of centralisation, with the top four quota holders controlling nearly 70% of the catch, is unique to the HDST and critical to its success. Unlike the HLL and HHL fisheries and to a greater extent than the HIST, large quota allocations, and therefore an oligopolistic harvesting structure, are needed in the HDST to maintain the high levels of value addition, international competitiveness, and custodianship over the sustainability of the resource. Smaller firms are simply not able to achieve these objectives and further redistribution of quota and fragmentation of the fishery structure will threaten the economic and environmental sustainability of the HDST.

### 2.2.2 Hake inshore trawl

The HIST targets inshore, shallow water hake (mostly *Merluccius capensis*) with most fishing occurring off the south coast. Inshore vessels are restricted to a maximum length of 30m, a horse power of only 1,000hp, and are not allowed to deploy heavy trawl gear. Inshore trawl fishermen are allowed to fish within deep sea trawl areas deeper than 110m. Although there is a 30m limit on vessel length, the average length for an in-shore vessel is 20m and vessels usually fish for one to four hours at a time landing approximately five tons of fish per trip. Fishing is done almost solely by wetfish vessels and fish are landed raw for land based processing or immediate sale. Unlike the HDST, in-shore vessels traditionally diversify their species catch and will target both hake and Agulhas sole in any one trip (Wilkinson & Japp, 2005, 11).

The HIST sector is much younger than its deep sea equivalent and grew most rapidly in the 1950s. However, it wasn't until the establishment of the TAC in 1978 which split allowable catches between deep sea and in-shore fishing that the HIST was formally recognized by policy as a separate fishery. Since then its contribution to total catch has grown and currently the annual catch is worth about R60 million and insured assets are estimated at around R100 million.

The HIST has lower capital requirements than the HDST, and its insured assets during the era of MTRs were only estimated to be worth R100 million. It is however, less transformed than the HDST with only 50% of the quota allocations held by HDIs and 69% held by SMEs, resulting in only 37% of the TAC being landed by HDIs. The average income of sea going individuals is R35,000 and, as with the HDST sector, employees mostly enjoy formal and full time employment benefits. Ninety percent of the jobs are held by HDIs and 42% are held by women (BCLME, 2005, 19-20).

### 2.2.3 Hake longline

The HLL was started as a strategic sector for the South African fisheries management because, unlike the trawl fisheries, its low capital requirements make it a relatively easy sector to enter. Longline fishing entails dropping a single line of many baited hooks behind the fishing vessel. Like the trawl fishery, it is split into deep sea and in-shore segments, each with their own regulations, however at all times it is considered one sector. Inshore vessels

are allowed to fish with up to 4,000 hooks on the line and generally operate in waters with depths below 110m. Offshore vessels are allowed to fish with no more than 20,000 hooks and are not allowed to fish at depths any shallower than 110m.

From a product perspective, the advantage of long line fishing is that it is less damaging to the fish and as a result a higher quality of fish are landed than would be if trawled. For this reason long lined fish are almost always sold simply fresh and gutted (with head on or off). Long lined fish are mostly exported and historically have fetched prices on average 50% higher than that of trawled hake (BCLME, 2005, 21-22).

The other benefit of long lining is its flexibility in fishing location. Long lines float above the sea floor allowing vessels to target rough and hostile fishing grounds where fishing had not been historically viable in the trawl sectors due to the cost of net damage. Long lines can also be weighted to target bottom feeding fish such as kingklip or floated to drag through the feeding channels of hake (Fairweather, 2001, 5). This gives skippers and companies in the HLL sector great flexibility. Such firms can respond very quickly to market demands and due to the price premium and low capital input, are efficient wealth creators when the market is strong. Due to the collapse of European (and especially Spanish) demand for high quality hake since the financial recession in 2008, returns in the HLL sector have fallen sharply, and rights holders are struggling to see returns on their investments.

As a result of the broadened access to fishing grounds of the HLL, there is still much heat in the debate about the ecological impacts of long lining versus trawling and its long run implications for the hake stock. Long lining is less damaging to the sea bed however it typically catches more large mature female fish than its trawling counterpart and therefore may have a large impact on subsequent recruitment to the fish stock (Leiman & Arnoni, 2006, 4). In this way a redistribution of TAC from trawl to the longline sector might have a disproportionate impact on the long term catch rates of the industry. Trawling had meant that rocky and uneven sea-beds provided naturally protected areas and spawning locations for the hake stock. With the introduction of long lining the fishing industry now has access to all areas that the fish might inhabit, placing an added pressure to the management of fishing controls.

The HLL is still young and has experienced a tumultuous history. It commenced in 1982 but until 1990 primarily focused on kingklip, which was more valuable than the equivalent hake catch. Despite the lower catch of hake, the hake longline sector was still terminated in 1990 amid fears of its impacts on stocks (Feike, 2008). It was reinvestigated and recommenced in

1994 as an experimental fishery when fisheries management recognized the high transformation potential offered by long lining due to its relatively lower capital investment requirements. In 2001 the sector was formalized with the issuing of MTRs to 132 rights holders (BCLME, 2005, 21).

The HLL is an example of transformation success, although the recent threats to the economic stability of the fishery have shown that such transformation may both empower and impoverish. Of the TAC allocated to the HLL sector, 90% is controlled by HDIs and 90% of employees in the HLL are HDIs. The expectations that entry costs would be lower and new entrant participation would be easier in the HLL were met and show in the ownership figures as 80% of rights holders are SMEs. In the period of MTRs the average income for sea going employees was R38,500 (worth R56,835 in July 2011 using CPI inflation) (BCLME, 2005, 21).

#### **2.2.4 Hake handline**

The HHL sector is far smaller in its catch levels, and less commercialized, than the other three hake fisheries. It targets only shallow water *Merluccius capensis* and fishing is only done using hand lines from small vessels. All players in the HHL sector are SMEs, and most are individual fishermen. Like the HLL sector, the HHL sector primarily targets high quality hake which is landed fresh and sold into markets demanding premium quality fish.

In comparison to the other hake sectors, the HHL has been relatively unregulated until recent years and this shows in the catch history of the sector. In the late 1980s catch was estimated at 150 tons per annum, but with increasing demand and ease of access the annual catch climbed to 7,300 tons in 2001. This caused a collapse in the fish stock and, despite controls in the form of a TAE being set in 2000, it was only in 2003 that allocations were formally allocated in order to control the catch levels. These rights went to 86 holders employing a crew of 700 people. Twenty six percent of rights were issued to HDIs while 76% of the crew were HDIs. Effort was made to only issue fishing rights to individuals who used the HHL sector as their primary source of income and to not allow access by individuals already involved in other sectors or fisheries (BCLME, 2005, 24). This requirement in the HHL sector was repeated in the LTR allocations to ensure that the sector was reserved for those dependent on it for their livelihoods (DEAT Handline Policy, 2005, 7-11).

## **2.3 Management of the resource and the challenge of conflicting goals**

### **2.3.1 Binding agreements**

Until 2010 the South African fishing industry had been managed under the Department of Environmental Affairs and Tourism (DEAT) and since 2000 it was managed specifically under their delegated authority for fisheries, Marine and Coastal Management (MCM). Since then the economic management of fisheries has been shifted to the Department of Agriculture, Forestry and Fisheries (DAFF) while its environmental management remain under the now Department of Environmental Affairs (DEA). In its management of the resource MCM (and latterly DAFF) have three main objectives; to improve the transformation profile of the industry, to create an environment that attracts investment and job creation, and to support the economic viability and environmental sustainability of the resource.

Policy within the fisheries is first advised by the Constitution of the Republic of South Africa, which deems the marine fishing resources of South Africa to be of national importance, and then by the Marine and Living Resources Act (MLRA) of 1998 (BCLME, 2005, 10). Each fishery is then advised by its own set of policies and guidelines.

Management within the fisheries are tied to obligations and commitments made at the World Summit on Sustainable Development (WSSD) in 2002, the Food and Agriculture Organisation's 1995 Code on Responsible Fisheries, The United Nations Convention on Law of the Sea (UNCLOS) of 1982, a number of Regional Fishery Management Organisations, and the SADC Protocol on Fisheries (DEAT General Policy, 2005, 6). The HDST sought and was awarded Marine Stewardship Council (MSC) certification in 2004: recognition of sustainable resource management, but also a form of labelling which can feasibly yield a price premium in some foreign markets. More importantly, it ties the industry's management policies to sustainable harvesting, i.e. it places the resource stock rather than redistributive socio-economic policies at the centre of the fishery's management. This is in conflict with the State's current management objectives.

### 2.3.2 Challenges of management

In planning and implementing its management the hake fishery, as with all fishing industries, presents some unique industrial characteristics. Firstly, it is an industry that involves harvesting a finite resource, whose extent is never completely known. The function of any management is not to maximize current profits but to maximize the present value of expected profit (Harris & Leiman, 2006, 34). But this becomes even more complicated when profits are derived from a limited resource that is not entirely managed by one enterprise. Basic fishery models suggest that completely open access to such a limited resource will simply cause a tragedy of the commons effect and dissipate all rents.

The tragedy of the commons is an economic outcome first described in Hardin (1968). Hardin argued that where more than one player had access to a limited common resource, it would be in each player's interest to harvest this resource as fast as their capacity allowed. The interest of the group however was that each individual restricted their harvesting such that the total harvest level of the group did not exceed the resource's ability to replenish itself. Hardin argued that external third party control would be needed to prevent each player from maximizing their personal benefit and therefore decreasing the total future welfare available from the resource, (Hardin, 1968, 1244). Ostrom, while acknowledging the existence of the tragedy of the commons, disagreed with Hardin that external control was needed. Citing various examples, mostly small community collaborations, Ostrom showed that there exist many cases where players self-organise to prevent the type of outcome discussed by Hardin (Ostrom et al, 1999, 278).

In the case of the South African fishing industry, the area of operation is too large and the number of players too great for the industry to self-organise and for the outcomes of the tragedy of the commons to be prevented without government intervention. If there are no barriers to entry (i.e. no capital or skill requirements and no permit restrictions) players will keep entering the industry until the financial profits of the industry are equal to the opportunity cost of transferring the factors involved from other economic activities. In an environment of low wealth and high unemployment these opportunity costs are very low and subsequently the number of participants in the fishing industry will grow until each is deriving almost no rents from the resource (Harris & Leiman, 2006, 26).

While traditional economic theory suggests that such perfect competition will encourage efficiency, it will prevent the industry from operating at its maximum economic yield (MEY); it merely results in a rapid decrease of the resource stock and the ultimate impoverishment



of all players. Policy therefore needs to ensure that players do not maximize short term profits but rather maximize long term resource rents.

In reality there are profound barriers to entry. Not only is the cost of capital high, but so is the hurdle rate of return; a basic feature of the industry is the many risks facing operators and the need to spread such risks across the value chain. Fisheries operations take place in a physically dangerous environment, and ensuring vessel safety is expensive. The cost of operating vessels is also subject to shocks; in particular the fuel price is beyond the control of South African fishermen. The size, nature and value of the catch and future catches are unpredictable making it difficult to plan production in any way. Finally, the South African industry, due to its high reliance on foreign markets, is at risk whenever there are large exchange rate fluctuations.

The commercial fishing industry, especially the HDST, is highly capital intensive. The industry is therefore subject to large economies of scale which are further exaggerated by a situation where the unsubsidized South African firms service a large foreign market in which they compete with often subsidized foreign fishing firms (Harris & Leiman, 2006, 28).

In order to reduce the risk and to realise the economies of scale inherent to the industry, large scale fisheries often exhibit strong levels of vertical integration. This allows firms to diversify their products and mitigate the dangers associated with demand and supply fluctuations. Steeply sloped value chains also mean that it is typical for firms to earn higher returns off processing fish than catching them. This natural tendency towards vertical integration and centralisation of operations is in conflict with the social demands of the industry. The MLRA states that decisions made by fisheries management need to be guided by “the need to restructure the fishing industry to address the historical imbalances and to achieve equity within all branches of the fishing industry” (MLRA, Section 2(j)). Attempting to achieve this via the distribution and fragmentation of operations would limit the industry’s ability to generate sustainable rents and employment from the fish processing.

A result of conflicting management goals is an industry where contracts between the State and participants are not aligned in their incentives. Participants are interested in maximizing profit but the State is requiring them to engage in behaviour that may be to the detriment of their profit margins. The O’ Regan judgement in the case of Bato Star Fishing (Pty) Ltd versus The Minister of DEAT (2004) states that “measures aimed at the achievement of the goal identified in Section 2(j) of the Act [MLRA] need to be taken side by side with the steps designed to fulfil the other objectives identified in the Act.” These other objectives refer to

the need for economic efficiency and wealth creation as well as the environmental sustainability of the resource. The challenge of fisheries management is to design these contracts in such a way that its objectives of transformation and sustainability are met without encouraging damaging opportunistic behaviour by firms such as overfishing or misreporting of information. In order to achieve this, the goals of the State and the participants need to be aligned. The rights allocations policies based on transformation criteria used in 2001 and again in 2006 have given firms incentive to change their transformation profiles but in order to have participants internalize the incentive to fish sustainably they would need to have a large enough share of the quota that their right to future stock levels is guaranteed.

### **2.3.3 Objectives of fisheries management and methods of control**

Through the MLRA, MCM (and latterly DAFF) have aimed to achieve three broad objectives with regard to fishery management. These are the physical sustainability of the resource, its optimal utilisation, and the socio-economic transformation of its users. The goal for sustainability does not simply mean keeping stock levels from declining; it refers to the need to ensure that the resource is not overexploited to a level below what is consistent with its MEY. Any level below the MEY imposes an intertemporal opportunity cost on the future rents possible from the fish stock. Sustainability also refers to the need to mitigate the impact of the commercial fishery on surrounding ecosystems such as the sea bed and the pelagic bird populations.

The goal of optimal utilisation incorporates all financial and economic dynamics of the resource use. While overexploitation will reduce future rents gained from the resource, under-utilisation is inefficient and will result in an opportunity cost on the industry and the economy as a whole. While there is limited room to expand the fishing industry it is important that the fishery management put in place such policies and controls that encourage the maximum levels of employment, empowerment, economic growth, and investment possible.

The final goal is socio-economic transformation and it appears to be the main objective behind changes to current fisheries management policies. There is need in South Africa to restructure the perverse wealth distribution encouraged under the Apartheid era. In the

context of the hake fishery this is implemented through policies that aim to redistribute the TAC to HDIs or to companies that show majority ownership by HDIs. This can be achieved through two different channels; firstly, by taking rights to harvest a share of the TAC away from the larger existing firms and transferring them to smaller, new entrants, or secondly by allocating quota to those existing firms that show adequate levels of internal restructuring. Transformation is a difficult goal to manage due to the difficulty in measuring its true progress as well as the many situations of asymmetric information between firms and the authorities. It is also an objective that can be at odds with the goals of efficiency and sustainability as, in a fishery where long term rights are narrowly held, it is in the firm's interest to restrict effort to levels that maximize sustainable rents (Branch & Clark, 2006, 8).

A concentrated industry selling into a competitive global market, where the individual players show high levels of transformation is the closest structure that can achieve all three of the State's goals without high levels of monitoring and control from the fisheries management. As the fish is sold in a competitive market these firms will only have control over the harvesting in the industry and will not be able to manipulate the product price.

An alternative management option is to continue with the current fragmentation which requires high levels of monitoring, or to allow rights to be tradable, for example as Individually Tradable Quotas (ITQs). Tradable rights issued at no cost grant short term benefits to new entrant HDIs selected by the State but the industry will quickly return to its status quo and there is no guarantee of long term HDI involvement. Auctioned tradable rights will be bought by the highest bidder and the transformation goals of the State will not be met.

As mentioned by Geel et al (2005, 5), there are four different categories of control which the fishery management can use to change the behaviour of players within the industry; technical controls, output controls, input controls, and subsidies and taxes. Technical controls refer to the restrictions placed on gear used and location and time of fishing. Such restrictions include controlling the mesh size of nets, the number of hooks used on long-lines, the area where fishing may take place, or the banning of fishing during certain seasons.

Output controls (i.e. permits and quotas) are those that most closely mimic ownership rights of the resource. These allow the holder a certain catch volume, usually calculated as a percentage of the annual TAC. Before firms are allocated quota they are granted a fishing right to harvest the resource. Rights can be multi-species or species specific, and can include

an allowance for a certain amount of by-catch (Geel et al, 2005, 6). A fishing right is not a property right valid in perpetuity, but is rather a permit from the State to extract the specified resource for a certain period of time. When the right expires it reverts to the State for reallocation. At present any transfer of rights requires permission from the State and they may not be freely traded (BCLME, 2005, 8). Long term investment in the industry is contingent on secure expectations of future returns, and therefore requires a belief that the allocations of rights are slow changing and relatively secure in the long run. Lending to industry participants also becomes easier if the rights are tradable (and therefore collateralisable). Continued redistribution of quota will send signals to the existing participants, especially those with large quota holdings, that their rights are not secure. This is a signal that is likely to have negative consequences for investment levels and sustainable behaviour by these firms.

Input controls are used to restrict and manage the amount of effort employed by fishermen. These will include controls on the length of the vessel, length of the trip, horsepower, number of employees, gear used, and areas fished. While effective in some instances these can often lead to technological creep where the more advanced the controls become, the more advanced the fishermen become at circumventing them, ultimately leading to a waste in resources employed. Taxes and subsidies can also be used to either encourage or discourage fishing in certain sectors or methods. This again, however, leads to distortion in the efficiency of the market (Geel et al, 2005, 6).

The first stage of methods used by the State to control the hake fishery is the determination of an annual TAC and the allocation of shares in it as non-tradable quotas. This implies a system whereby criteria can be set to ensure that fishing firms or persons involved in the industry have the capacity and characteristics needed to meet the State's goals of sustainability, efficiency and transformation. Once quotas have been allocated further monitoring and restrictions (mostly technical) are imposed to compliment the systems established by the quota allocation and to ensure that firms maintain the behaviour to which they committed themselves.

The methods of control chosen by the hake fishery's management are discussed below, separated by the goals of the State that they are intended to achieve.

### 2.3.3.1 Sustainability

The Policy for the Allocation and Management of Commercial Fishing Rights (PAMCFR) in the hake fishery makes provision for the requirements and comparison criteria to manage the sustainable use of the resource. These requirements are widely varied and include specific controls such as gear size, number of participants as well as overarching management policies to take into account the impact on the wider environment. The controls to manage the sustainability of the resource imposed by the LTR allocations are discussed below.

In the HDST sector specifically, MCM halted the increase in number of participants in the fishery. New entrants were allowed to enter but only if others had left (DEAT Deep Sea Policy, 2005, 7). The hake fishery as a whole is subject to maximum annual by-catch allowances for the two high value species of kingklip and monkfish. Participants had to also demonstrate the methods that they would employ to reduce their by-catch.

In allocating rights to participants in the trawl fisheries, management was supposed to take account of the extent to which an applicant for quota was able to, or intended to, reduce damage to the sea bed. The applicant's ability or intent to reduce energy and fuel use in both fishing and processing was also taken into account (DEAT Deep Sea Policy, 2005, 14). Technical controls also play a strong role in limiting the negative impact on the sustainability of the resource. Deep sea trawl vessels are restricted from fishing within 20nm of the coast or in depths shallower than 110m, whichever is the furthest from the coast. Inshore trawlers are restricted from fishing in bays and all fishing operations are banned from certain Marine Protected Areas (MPA). In the HDST, the mesh on nets is not permitted to be smaller than 110mm and instead of placing restrictions on horse power of the vessels alone, a new system of limiting the allowable sea days of vessels has been adopted. This restriction is allocated per vessel on an individual basis and is primarily calculated according to the horse power of the vessel's engine which has been found to be the best proxy for fishing capacity. Tori lines (a method of fixing streamers to trawl lines to limit deaths of sea birds) are required on all trawling vessels (Siyema, 2010, 82).

Aside from these conditions the PAMCFR also states that the fishery's management intended to implement a strategy to manage the resource through an ecosystem approach to fisheries (EAF). An EAF is a management strategy that takes into consideration the ecological relationships between species, both harvested and not, in order to maintain the stability and sustainability of the system as a whole (Petersen et al, 2010, 1). Petersen et al

(2010, 1) discuss that management on a single species basis alone is too narrow, and failure to take ecosystem relationships into account is a threat to future yields of both that species and others. South African fisheries management has committed itself to implementing the principles of EAF management through UNCLOS and in agreements pledged at the WSSD, however its ability to achieve these goals is limited due to its capacity of implementation and its goal of social reform in the fisheries.

Petersen et al (2010, 3) list ten objectives for implementing an EAF including the need for sufficient capacity, skills, equipment, funding, and good data procedures. While widely recognized as necessary for effective management of the resource, EAF is expensive and information heavy. Fisheries management in South Africa is already suffering under the requirements for research and monitoring under the current single species approach and it seems infeasible that such additional demands could be met with existing budgets. EAF would also require a sharper focus on the environmental aspects of the fishery which, as this paper goes on to discuss, will contradict the socio-economic goals of the State. Under the current pressure to transform the fishing industry and redistribute its wealth, the State is unlikely to adopt policies to effectively target EAF objectives if these policies require narrowed and reduced access to the fishery. The use of MPAs is common in the implementation of EAF management but they are difficult to implement as the exact location of these can become politically contentious.

#### **2.3.3.2 Efficiency**

The PAMCFR contains conditions intended to maximize the economic efficiency of the South African fisheries. Firstly, all applicants for quota must have had access to a suitable vessel. The document details this as a vessel that is properly registered, is over 30m and is equipped with the required fishing and monitoring equipment. Alongside capacity “all new entrant applicants will be required to demonstrate that they have the knowledge, skill and capacity to participate in the [...] fishery” (DEAT Deep Sea Policy, 2005 10). Fishery management also evaluated new entrants based on their capacity and intention to invest in the industry both in fixed assets and in marketing. These conditions served to ensure that only the players that would make best use of the resource were allowed access to it and to cut back on the existence of ‘paper quotas’ i.e. sale of permit by rights holders to existing firms. In this way paper quota holders earn a rent from their allocation without the need to invest or carry risk. This behaviour is illegal as it circumvents the State’s goals of empowerment and HDI

ownership of factors of production. It creates an administrative and efficiency burden on the industry without benefitting any of its goals.

In the issuing of LTRs the PAMCFR also penalized the score of any applicant who over- or under-caught by more than 10% during the MTR period. While overutilization threatens sustainability, underutilization imposes an opportunity cost on the possible rents sustainably available from the resource and therefore counted against the applicant for new rights issue. In a similar regard, the ability of an applicant to add value to the resource through processing, marketing and distribution was taken into account and counted in the applicant's favour (DEAT Deep Sea Policy, 2005 10). These policies were put in place in order to ensure that given a fixed level of harvestable resource, and in conjunction with the other goals of the State, the industry is maximizing its potential value creation.

#### **2.3.3.3 Transformation**

Included in the requirements to gain quota in the fishing industry during the LTR allocation was a strong emphasis on the transformation levels of the applicant. As well as showing environmental sensitivity and economic efficiency, applicants needed to show a capacity and willingness to empower HDIs both in ownership and management. The history, justification, method, implications, and result of this policy are discussed in the following chapter.

### **2.4 The rationale for redistribution**

The South African fisheries managers have sought to redistribute control of fishing rights from traditionally white owned capital to new entrants with higher levels of HDI ownership. The stated rationale for this is that, due to the exclusionary laws of the Apartheid era, the South African fishing industry currently shows an ownership profile that does not reflect the population demography of South Africa and is therefore in need of transformation.

The greater need for transformation is summarized in the White Paper for Reconstruction and Development of 1994 which states; "The economy was built on systematically enforced racial division in every sphere. [...] Segregation in education, health, welfare, transport and employment left deep scars of inequality and economic inefficiency. Violence has had a

devastating effect on our society and the need to restore peace and a sense of community security, is paramount.”

The consequences of failing to transform were emphasized by then President Thabo Mbeki in his 1998 State of the Nation Address where he stated that, as Ponte & van Sittert, (2007, 440) paraphrased, “national unity and reconciliation between black and white South Africans were impossible dreams if socio-economic disparities, which prevented black South Africans from exercising their citizenship rights [to equal opportunity] to an equal extent to white South Africans, were not rapidly overcome”.

In a fisheries context equal opportunity implies that no party applying for fishing rights should be at any disadvantage due to their race or sex, especially if these disadvantages were embedded by historical exclusion.

While Mbeki and others stressed the consequences of slow transformation, the Bill of Rights, Chapter 2 of the Constitution of South Africa which took effect in February 1997, legally backs the need for interventionist transformation in Section 9(2) stating;

“Equality includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative and other measures designed to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination may be taken”

This statement of the Bill of Rights therefore makes transformation and the support of HDIs in accessing wealth and access to resources not only a policy objective, but a constitutional imperative (BCLME, 2005, 9). The Reconstruction and Development Programme of 1994 (RDP) stressed the importance of a development policy that would meet basic needs, develop human resources, build the economy, and democratize society (Isaacs, 2006, 52). It introduced the idea of achieving this through black economic empowerment, stating;

“A central objective of the RDP is to deracialise business ownership and control completely, through focused policies of black economic empowerment. These policies must aim to make it easier for black people to gain access to capital for business development.” (Government Gazette White Paper on RDP, 1994, Chapter 4.4.6.3)

In 2000 the Black Economic Employment commission released a report which defined Black Economic Empowerment (BEE) and helped government to guide its policy of transformation (BEEBiz.co.za). It wasn’t until 2004, however, that this would be formally recognized in the



Broad-Based Black Empowerment Act (BBBEE) (No. 53 of 2003) which defined BBBEE as follows;

“...the economic empowerment of all black people including women, workers, youth, people with disabilities and people living in rural areas through diverse but integrated socio-economic strategies that include, but are not limited to-

- a) increasing the number of black people that manage, own and control enterprises and productive assets;
- b) facilitating ownership and management of enterprises and productive assets by communities, workers, cooperatives and other collective enterprises;
- c) human resources and skills development;
- d) achieving equitable representation in all occupational categories and levels in the workforce;
- e) preferential procurement; and
- f) investment in enterprises that are owned or managed by black people.”

The term “black people” refers to all Africans, Coloureds and Indians.

The State recognized that it would be easier to achieve redistribution in industries such as the fisheries, energy, telecommunications, and mining as the mechanism of allocating licenses present in these industries would allow the State control over their ownership characteristics (Ponte & van Sittert, 2007, 438).

This implied that the ‘grandfathering’ approach traditionally used in the fisheries, an approach which allocated rights according to past performance and ownership, would not work in this case due to the historic exclusion of players by race rather than ability (Geel et al, 2005, 8). Unregulated market forces or allocation by the status quo would therefore only serve to reinforce existing inequalities (Ponte & van Sittert, 2007, 440).

Isaacs (2006, 52-53) discusses how the debate surrounding legalized support for transformation created an expectation amongst HDIs involved that they would get access to fishing rights and the opportunities to manage their own businesses. Transformation was understood to mean formal direct access to the resource. Although referring specifically to the smaller fisheries, the sentiments discussed by Isaacs were also true for the hake fishery. The case of Bato Star Fishing (Pty) Limited versus The Minister of DEAT (2004) was a prime

example of such expectancies as one of the claims of Bato Star was that it should have been allocated more quota in accordance with the redistribution goals of the State.

The MLRA of 1998 was the first document to establish the transformation goals for the fishing industry in a legal form. Section 2 (j) states one of the objectives of fisheries management as;

“the need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry”

and specifies this further in section 18 (5);

“In granting any right referred to in subsection (1) [right of fishing access], the Minister shall, in order to achieve the objectives contemplated in section 2 [objectives of act], have particular regard to the need to permit new entrants, particularly those from historically disadvantaged sectors of society”.

Later on this would be defined in the General Policy on the Allocation of Long Term Commercial Fishing Rights of 2005 (hereafter referred to as ‘the General Policy’) which stated explicitly how high transformation levels of applicants would play a large role in their eligibility for rights access (DEAT General Policy, 2005, 29).

## **2.5 An established sector**

The hake fishery is a complex segment of the fishing industry with multifaceted management characteristics and a wide variety of participants. It is the most valuable sector in the South African fishing industry and provides significant levels of employment, investment, wealth creation, and foreign exchange to the South African economy. A fundamental component of its success is that it is over a century old and its infrastructure and operations are well established. Social reform was needed post 1994 but this has largely been achieved. Any further policies aimed at restructuring the industry to favour the goals of the State must take cognisance of the long track record of success in the industry and the reasons for it. Fragmentation of the industry's structure is a serious threat to its ability to generate income. The State cannot redistribute what does not exist, it is therefore imperative that they should not disrupt the key drivers of wealth and sustainability (both environmental and economic) within the sector.

### 3. Transformation: is there still a need?

In order to assess the suitability of the current policies aimed at fragmenting quota ownership, it is important to further understand the rationale behind it.

This paper focuses on the current transformation status of the hake fishery and feasible ways of improving it. However, in order to understand both the current status of the fisheries and the appropriateness of future policies it is important to understand the evolution of rights allocation policy since the National Party rule of Apartheid first began to dissolve. The progress of these policies can be separated into three very distinct phases; the period of restructuring that took place between the change of government and the issuing of MTRs, the four years in which the MTRs were valid, and the subsequent issuing of LTRs in 2006. This chapter will briefly unpack the first two of these phases and then go on to investigate the issuing of the LTRs in detail and the subsequent outcomes for transformation. It will also question whether the recent statements by DAFF that the industry is in need of transformation and further policies of redistribution are required are valid.

#### 3.1 The lead up to the medium term rights

The African National Congress (ANC) has shown an interest in national resources for a long time. The Freedom Charter of 1955 stated “The mineral wealth beneath the soil, [...] and monopoly industry shall be transferred to the ownership of the people as a whole” (ANC.org.za, 2011). When the ANC gained power in 1994 it was largely expected that redistribution initiatives in the fishing industry would follow.

It was however as early as 1985 that DEAT would start developing policies to broaden access rights and at this time quota was redefined from a percentage of TAC to quantum (an amount measured as quantity by tonnage). The industry questioned the legality of this, which led to Diemont Commission of 1986 where Judge Diemont was tasked with investigating the fisheries allocation process and making recommendations that could lead to a more optimal system (Sauer et al, 2003, 46). The recommendations made were that quota allocation should be entrusted to a statutory board independent of the State, and that quotas allocated should be long term and freely tradable. Following these

recommendations the Quota Board was established in 1998 to manage the allocation of quota (although it would not start operations until 1990) however the recommendations of board independence and long term tradable quotas were ignored. The Quota Board was in charge of all quota allocations between 1991 and 1998. These allocations, however, were generally perceived to be unfair and arbitrary, resulting in uncertainty and therefore inefficiency in the industry (Japp, 2001, 128-129).

As part of the Quota Board's rule, in 1992, in a final attempt by the National Party (NP) to gain some of the Coloured vote in the Western Cape, hake fishing rights were issued in the form of community quotas to targeted Coloured communities. However, the high costs, large capital requirements, and administrative burden of entering the industry meant that the most rational way for these communities to make money from these quotas was to sell them back to the large incumbent fishing firms within in the industry (Ponte & van Sittert, 2007, 446).

This redistribution amounted to political fronting and imposed unnecessary costs upon the industry. It created uncertainty, disrupted production flows, threatened the security of supply to international markets and therefore the competitiveness of the South African industry, reduced profits and threatened employment. While in this case the goals were purely for political vote gain, current policies in the interests of empowerment show similar consequences where new entrants are not able to operate successfully in the industry.

With the fall of Apartheid, the Government of National Unity (GNU) was formed in 1994 and under this new rule government appointed Dawie de Villiers from the National Party (NP) as minister in DEAT. The Fisheries Policy Development Committee (FPDC) set up shortly afterwards in order to draw up new fisheries policy was largely made up of existing incumbent players in the industry. The South African Deep Sea Trawl Industry Association (SADSTIA), organized labour and experts from marine science all refused to support policies of redistribution at the time on the grounds of threats to the environmental sustainability of the fish stock and to economic stability. They argued that fragmentation of ownership would lead to abuse of the resource and reductions in international competitiveness, efficiency, total rents and employment in the industry. They proposed that the industry rather be fully privatized and that individual quotas be issued to firms in perpetuity which would then become tradable assets (ITQs). Their arguments were heard and their suggestions written as policy into the first draft of the Marine and Living Resources Act (MLRA) of 1997 (Ponte & van Sittert, 2007, 446).

The implications of this policy being passed would have been that the State lost all control over the ownership structure of the fishing industry. Any firm struggling to survive on their quota allocation would be bought out by more successful firms, and slowly the industry would tend towards a natural oligopolistic structure. This would have been especially true of the HDST where the large capital requirements and economies of scale needed to maximize efficiency, as well as the steeply sloped value chain and its focus on international markets, would favour an industry of a few large players.

Due to these economic benefits of a more concentrated industry the hake trawl companies felt that redistribution posed little threat to them. After gaining power the ANC downplayed much of its earlier campaign focus on redistributive economics and began the build up to its neo-liberal Growth, Employment and Redistribution policy (GEAR). Ponte & van Sittert (2007, 446) argue that this, together with a commitment by the State to reserve extra TAC for incumbent firms, meant that businesses in the HDST felt sure of their continued dominance in the market.

Despite this, however, many of the firms in the hake fishery recognized the need to diversify their ownership. In 1994 Oceana implemented an Employee Share Option Purchase program and in 1995 were involved in a BEE deal with Real Africa Investments to diversify their share holding to HDIs. In 1996 I&J transferred 2.2% of its share capital to its employees and in the same year Sea Harvest transferred 8% of its share capital to its employees (Ponte & van Sittert, 2007, 446).

In 1996, with the end of the GNU and a new ANC minister of DEAT (Pallo Jordan), a leftward shift of policy was expected. The draft MLRA was immediately rejected and rewritten to include a much larger interventionist role by the State. In response to this the large hake firms engaged in further internal redistributive measures. Anglo Vaal Industries (AVI), the parent company of I&J, sold 20% of its share capital to three BEE conglomerates; 10% to Siphumele Investments, 5% to Ntshona Investment Enterprises, and a further 5% to Dyambu Holdings. Sea Harvest for its part lost 10.8% of its shareholding when its parent company, Tiger Brands, sold 27% of the Tiger Brands share capital to Brimstone, another BEE company (Ponte & van Sittert, 2007, 447).

To manage the implementation of the redistributive policies written out in the MLRA, DEAT set up the Fisheries Transformation Council (FTC) in 1998. The FTC turned out to be a managerial disaster though and amongst allegations of corruption and nepotism it failed to keep any records of its decisions or transformation statistics as well as failing to allocate any

rights in the period that it was in charge (Ponte & van Sittert, 2007, 449). It was not until the division of Marine and Coastal Management (MCM) was established in 2000 that stability was restored to fisheries management. In 1999 government changed once more with Thabo Mbeki taking over presidency and Valli Moosa (ANC) taking over as minister of DEAT. Since the promulgation of the MLRA in 1998 rights had been issued on an annual basis to help government speed up the transformation process, but in 2000 it was announced that a MTR process would be implemented allocating rights for a four year period from 2002 to 2005. In order to prepare adequately for the issuing of these rights Parliament granted an amendment to Section 18 of the MLRA allowing the rights issue of 2000 to be rolled over to 2001 (BCLME, 2005, 13).

At the time of the MTR allocation, in spite of the administrative turmoil that preceded it, the HDST industry was in a good position to receive such a policy. The number of participants had increased from 21 to 56 since 1992. Thirty three percent of the TAC in the HDST and 34% thereof in the HIST was under the control of HDIs. While these numbers reflected the direct control within these sectors it is likely that the true level of HDI control was higher as three of the four large fishing firms in the hake demersal trawl were owned by JSE listed parent companies and therefore would have wider spread HDI ownership. Annual sales in the demersal trawl amounted to R1.5bn per year, bringing in R700m in foreign exchange and earning government a total annual revenue of R290m (Sauer et al, 2003, 40-43).

While access to the fishery had increased, the market was still oligopolistic enough in structure that there existed a situation of custodianship over the resource by the larger players. Sauer et al (2003, 48) state that "it is of pivotal and fundamental importance for the sustainability of the resource that any new allocations policy does not erode the culture of custodianship". It is not only sustainability that is ensured by this "culture" but also the economic efficiency, wealth creation, and ultimate survival of firms within the industry. Sauer et al (2003, 48) point out that efficiency of distribution and marketing are pivotal reasons for the existing success in the hake fishery, especially that in the HDST and HIST fisheries.

In the MTR allocation this view was not ignored and while the social goals of the State were made clear, adjustments were made to ensure that the stability in the demersal trawl sector was not overly threatened. The MTR were to be allocated on a competitive basis with each applicant being scored according to a predetermined set of criteria, their level of transformation being a strong component thereof. While this change in management did

not signal any reversal of the goal to transform ownership within the industry, it did signal a shift from the traditional attitude of external transformation through fragmentation and redistribution, to a strategy of internal transformation, providing incentives for large incumbent players to change their internal structure of ownership and maintain the oligopolistic structure of the industry.

### 3.2 The medium term rights allocation

The objectives of the MTR allocation process were many sided. The first of these was to try and enact effective transformation within the industry. One year rights were not valuable enough to allow new entrant black ownership to raise capital as banks would not grant loans on such short term surety (BCLME, 2005, 11). The lack of stability brought about by such short term rights was also threatening the international competitiveness of the industry and the success of its individual participants and therefore the MTRs sought to extend the validity period of these rights. The development of allocation criteria in the MTR process, with a bias towards transformation, also allowed incumbent firms to redistribute internally and to compete on a transformation level with new entrant firms rather than face certain large scale loss of rights. The MTR allocations were seen as a temporary compromise between government's ability to respond quickly through one year rights, and the stability that LTRs would eventually bring.

Aside from transformation and economic stability, the MTR also sought to reserve rights for South African individuals or firms while ensuring the sustainable management and harvesting of the resource (BCLME, 2005, 11).

The criteria that applicants were judged on were divided into the following broad categories;

- Capacity to harvest and market fish products
- Transformation levels
- Involvement and investment in the industry
- Past performance
- Legislative compliance and paper quota risk (Kleinschmidt et al, 2003, 30)

Capacity refers not only to harvesting but also to the upstream value creation processes inherent in the industry. Another point of interest is that applicants were not required to

own a vessel but only needed proof of access to one. While this was a well intended condition intended to reduce the entry costs of new entrants, it also encouraged smaller rights holders to seek joint partnerships with the foreign participants that South Africa had fought so hard to keep out of the industry after the establishment of the EEZ.

The criteria set to effect transformation in the industry referred directly to;

- Percentage of HDI ownership of equity
- Percentage of HDIs employed in top and senior management
- Compliance with the Employment Equities Act which sought to increase fair employment of HDIs (BCLME, 2005, 14)

The LTR would further expand these criteria to include a more broad based BEE approach.

What the process of allowing all firms to compete for quota based on defined criteria did was essentially shift policy away from an exclusively externally redistributive process where incumbent firms were guaranteed to lose quota, to a system that promoted internal transformation of the large incumbent firms if they wished to remain dominant holders of rights within the industry. The reasons stated by MCM for this change of approach were that the new entrants brought into the industry prior to the MTR had not performed well. In many cases they were not able to create wealth or stable business from their quota and had ended up leasing it out to other fishing firms. MCM had also noted the transformation efforts taking place within the large incumbent firms and did not wish to discourage this (Ponte, 2006, 30).

Transformation would always be a slower process internally than externally, however, and despite these changes in direction MCM did identify certain fisheries as particularly suited for the immediate inclusion of HDIs, especially through the promotion of small and medium enterprises (SMEs) with an annual turnover of between R3m to R5m. These fisheries were;

- Hake long line
- Hake hand line
- West coast rock lobster
- Abalone
- Oyster
- Mussels
- Line fish



- Net fish (BCLME, 2005, 14)

These are all small, low capital intensity industries where fishing takes place relatively close inshore.

On July 27, 2001 the department issued the invitation to apply for MTRs along with the set of criteria through which applicants would be compared. Rights were issued for a period of four years across 21 different fisheries (BCLME, 2005, 13). In total 5,496 applications were received for rights (half the number in 1999) and after the process of appeal a total of 3,900 rights were issued in the commercial fisheries, 66% of which were allocated to HDIs or companies with a larger than 50% HDI ownership (BCLME, 2005, 17). In total the rights issued were estimated to be worth R15 billion (Geel et al, 2005, 24).

While the MTR allocation successfully distributed quota to many new entrants as well as increased the allocation of quota to existing HDI participants, due to the political promise of wide spread transformation and the sheer number of applicants many felt disgruntled and unfairly treated in the process. Between 2001 and 2004 MCM successfully defended 40 court cases by applicants who claimed they deserved some, or larger, rights allocations (Ponte & van Sittert, 2007, 451).

Once the processes of appeal had been completed and the allocation of rights had settled the transformation goals of MCM in the hake fishery were showing positive results. In the HDST 74% of rights holders were majority HDI owned, 25% of the TAC had been allocated to HDIs and 53% of companies had management teams comprising of over 50% HDIs (Kleinschmidt et al, 2003, 32). MCM did not allocate any rights in the HDST to new entrants as it recognized that promoting internal transformation would be a better strategy for the fishery (BCLME, 2005, 13). As stated by Kleinschmidt et al (2003, 32), "further de-concentration of the sector was not considered to be economically justifiable".

Overall the MTR were deemed to be successful and an important transition period of stability to set the industry up for the issuing of LTRs in 2006.

### 3.3 The long term rights allocation

The issuing of LTR in 2005 was the next significant step in fisheries policy. Ponte & van Sittert (2007, 439) described it as, “the last real possibility for the South African government to enact meaningful redistribution of quotas”. Due to their long term nature and in combination with MCM’s stumbling capacity, corrective measures and monitoring were unlikely to be effective or possible throughout the duration of the rights and these contracts would in many ways fix the status of the fisheries until 2020 (Ponte & van Sittert, 2007, 439).

According to the allocation policy document on the HDST industry, the reasons for issuing 15 year rights were as follows;

- The transformation profile of the fishery
- The capital intensity of the fishery
- Part of the deep-sea trawl fleet is ageing and requires replacement
- The need to maintain the economic stability and increase the international competitiveness of the fishery
- This fishery is MSC certified
- The deep-water hake resource is well managed in terms of reliable and current data (DEAT Deep Sea Policy, 2005, 6)

These reasons were exactly the same for the justification of 10 year rights in the inshore hake industry except for the reference to MSC certification (DEAT Inshore Policy, 2005, 6).

On May 30, 2005 DEAT published the final volumes of the new fisheries policies and shortly after on June 15, 2005 the invitation went out to the cluster A fisheries (which included the HDST and HIST) to apply for rights (BCLME, 2005, 29). The final versions of these policies did not come about without controversy however. The first version of the HDST policy suggested that 10% of quota scores would be allocated to transformation measures, 10% in promotion of the involvement of SMEs, and 20% to other balancing scores.

Incumbents, workers unions, and BEE companies came out in strong opposition to this policy, especially opposing the emphasis on SMEs. I&J estimated that between 600 and 800 jobs would be lost in the industry and commented that such a policy would just result in idle capacity and ruin potential deals possible with BEE partners. Sea Harvest estimated a job loss of 900 workers and warned that such a policy would just result in fragmentation of the industry (Ponte & van Sittert, 2007, 452). Paton (2005) reports a number of comments from

interviewees. Louis Penzhorn (then MD of Sea Harvest) raised the concern that the weighting was biased against large companies stating that even if a company was 100% transformed, it would lose at least 10% due to it not being a SME. Mustaq Brey (then CEO of Brimstone, a BEE empowerment group which at the time owned 21.5 % of Sea Harvest and now owns over 70% thereof) was quoted as saying “Over the years we have been led to believe that if a company became empowered its quotas would not be tampered with. We have incurred debt and now our investment is being exposed”. Oceana warned that many of its BEE deals would not go through due the banks refusing to fund them on the back of such a fragmented policy. Andrew Marshall (then CEO of Oceana) stated that “We will automatically lose 25% of our rights and possibly up to 50%, depending on the scoring for the other pools. This will have a massive impact on our turnover, profitability and jobs”. Kevin Patel (then acting CEO of Premier Fishing which is 80% BEE owned externally and 20% owned by its staff) commented “We have majority black shareholders, majority black management, we have done skills training and everything else that was required. We did it not to please the department, but because it was good for business. Now we stand to lose”

It was not only business capital that came out in opposition. The National Certified Fishing and Allied Workers union also stood in strong opposition stating that the policy, “would affect the well being of HDIs” (Ponte & van Sittert, 2007, 452). The department heeded their arguments and in the final policy on HDST allocations of rights the clause on SMEs was reduced to simply state that “the delegated authority must endeavour to redistribute at least 10% (ten percent) of the TAC to right holders with small allocations, provided that these entities are sufficiently transformed and performed well during the MTR process” (DEAT Deep Sea Policy, 2005, 12).

### **3.3.1 The process of allocation**

Prior to 1998 applicants in the fishing industry were allocated quotas, but from 1998 onwards these would be termed ‘rights’. A fishing right is not a property right but rather a written permission from the Department allowing the user to harvest the resource for a certain period of time. When that period of time expires the right resorts back to the Department (DEAT General Policy, 2005, 13). A fishing right is simply a permission of access and does not stipulate the quota of fish that the user is allowed to harvest. For this the user needs to attain a fishing permit in order to exercise the right that they have been given

(DEAT General Policy, 2005, 9). The fishing permit states the allowable quota of harvest as well as detailed regulations on areas, gear, and administrative procedures.

Currently the ownership of fishing rights may not be transferred without the permission of the Department. Moreover, they cannot be transferred by selling shares in the company to which they were allocated, a transfer of ownership of a firm holding such a right may not exceed 35% of share transfer without permission from the Department. Under the following considerations the Department may allow the transfer of rights;

- Death, dissolution, liquidation or sequestration
- To promote transformation in the industry
- To promote positive consolidation within the industry (DEAT Deep Sea Policy, 2005, 44)

The LTR allocation process was broken up into eight significant stages;

1. A process of public participation and discussion
2. The division of the fisheries into clusters  
  
With relevance to this paper; the HDST and HIST were allocated to Cluster A, HLL to Cluster B, and HHL to Cluster C.
3. The issuing of invitations to apply for fishing rights, staggered by cluster
4. Submission of application forms and fee
5. Independent auditing of the applicant's information, applicable to Cluster A fisheries only, and to be done at the applicant's expense
6. The design of selection criteria and its weighting done based on the information received from applicants
7. The allocation of rights, notification of the department's decisions and reasons thereof
8. A period of appeal (DEAT Deep Sea Policy, 2005, 14-15)

The evaluation of applicants was split into three stages;

1. Exclusionary criteria: criteria which would allow or exclude the applicant according to erroneous or false applications or due to the applicant not meeting the minimum

requirements of application. At this stage there was no judgment or comparison and all applicants were measured against a strict set of rules.

2. Balancing criteria: it was at this stage that the future characteristics of the fishing industry would be decided. Applicants were compared against one another on the basis of a list of criteria designed by the department (detailed below). A cut-off threshold was determined based on the standard of the applicants, and determined separately for existing rights holder and new entrants. All applicants scoring above this threshold would be issued fishing rights.
3. Tie breaking criteria: in the case of a straight tie between two applicants exactly meeting the cut off limit, the department was able to turn to a set of less important 'tie breaking' criteria to help differentiate between the applicants (DEAT General Policy, 2005, 27).

Apart from correctly filled in applications, the exclusionary criteria included conditions relating to the legal form of the applicant, compliance with regulations, access to a vessel, and a measure for 'paper quota' risks (DEAT Deep Sea Policy, 2005, 7). A paper quota risk was defined in the General Policy as an applicant who;

- Has no intention to share full risk of their participation in the industry
- Has no intention to engage in the main activities required in exploiting the right
- Appears to be a front for another organisation (possibly less transformed for example) who will accrue most of the benefit flows from the right

In order to evaluate this risk the applicant's assets, access to capital and their general operations planning was considered (DEAT General Policy, 2005, 36).

In designing the process detailed above the department generated an application process that was competitive and reportedly open. Moreover, through the list of criteria upon which the applicants competed, the department had given itself a vehicle by which it could shape the characteristics of the 'winners' and the industry as a whole. The General Policy (2005, 26) states;

"Some applicants will be rejected because they do not meet the basic requirements. The rest are ranked according to a set of objective criteria in order to identify the best applicants in terms of the policies and weighted criteria. The process is competitive and the aim is to identify the best applicants".

The balancing criteria used by the department in the HDST, HIST, and HLL fisheries were as follows;

1. Level of transformation, measured by;
  - Percentage of HDI ownership, and number of HDIs earning top salaries, included in the board of directors, and in senior management levels
  - Whether other employees benefit from a share scheme. The General Policy does clearly state, however, that this share scheme needs to show real benefits to employees such as dividends (DEAT General Policy, 2005, 31).
  - The extent of affirmative procurement
  - Compliance with the Employment Equities Act (Affirmative employment and wage differentials being taken into account)
  - The implementation of training programs and skills development
  - Level of corporate social investment
2. Investment in the fishery including investment into fixed assets, processing capacity and marketing.

The General Policy clarifies this to say that shareholding in vessels obtained at minimum or no cost will not be considered investment. Applicants needed to show that they are willing to assume the risk involved in entering the fishing industry (DEAT General Policy, 2005, 35). This was to prevent the existence of paper quotas where persons would apply for permit with the intention of leasing it to existing firms in the market in exchange for direct payments or shares. In this way investment criteria were used as a further screening device to ensure that applicants had fishing ability and long term intent in their application for rights.

3. Performance. Measured by whether the applicants were able to harvest their allocated quota without over or under catching by more than 10% during the MTR. New applicants were required to demonstrate the knowledge, skill and capacity to participate in the fishery.
4. Value addition through processing capacity and enterprise development.
5. Job creation; comparison was based on the number of jobs provided per quota ton during the MTR period. Most favoured were jobs which;

- Offered full time employment
- Offered medical aid and pension allowances
- Complied with safety regulations

The General Policy (2005, 37) stated that “an important purpose of allocating long term rights is to create an environment conducive to job creation, in particular, the creation of more permanent and better quality jobs in the fishing industry”.

6. By catch performance or threat of unsustainable levels of by catch.
7. Environmentally sustainable behaviour and practices.
8. Local economic development. The policy states that landing and processing outside of main metropolitan areas is favoured but must not compromise the large investments already made by incumbent firms in these areas (DEAT Deep Sea Policy, 2005, 9-11).

The only difference of criteria between the HDST, HIST and HLL at this level of detail is that the HLL also included reliance on long lining as a condition to compare applicants. Applicants who derived more than 50% of their gross income from long lining would be favoured (DEAT Longline Policy, 2005, 11).

The HHL sector stipulates that on-board involvement of the right holder is a requirement (DEAT General Policy, 2005, 37). This is to ensure that the right holder is a deserving applicant financially dependent on the right and not an individual looking to benefit from the industry as a side project. Furthermore any applicant that did not depend on the HHL sector for at least 75% of their gross income, or who derived any income from outside of the fishing industry, was not considered. Only close corporations or individuals were allowed to apply for quota in this fishery. In this way private investors who have no personal involvement in the fishery were restricted from being granted rights. Applicants in the HHL were not expected to meet as high levels of investment and value addition as the other fisheries but applicants who landed their catch in traditional hand line harbours were favoured. Unlike the other fisheries the HHL is controlled primarily by a Total Allowable Effort (TAE) restriction (130 vessels and 785 crew) and thereafter by a precautionary maximum TAC. Applicants were permitted to apply for more than one vessel, however this allowance was limited and was only to be granted to those applicants who showed the highest levels of transformation (DEAT Handline Policy, 2005, 7-11).

In the HDST, applicants who were holders of MTRs were evaluated separately from new applicants and the application criteria were weighted differently. Appendix 2 shows a detailed breakdown of these criteria and their respective weightings. For both groups transformation factors accounted for 50% of the weighting and performance factors accounted for the other 50%. For MTR holders the largest weighted criteria were investment measured as insured value of assets (22.5%), job creation (21%), and ownership by HDIs (35%). Both investment and job creation were measured on a per ton basis and therefore the bulk of the criteria was not affected by the size of the firm. Factors that may have favoured the larger, more established firms such as value addition (3.5%), financial performance (1.5%), corporate social investment (1%), and enterprise development (0.5%) were all assigned low weightings as stated. The weightings do indicate however, that, regardless of size, MTR holders needed to show meaningful input into the industry both economically and socially in order to score highly on the rights issue criteria.

For new entrant applicants this was not the case. Investment (5%) and job creation (5%) had low weightings while financial performance (20%), demonstrated fishing ability (12%), number of HDI directors (9%), and HDI ownership (32%) together made up 73% of the requirements. A new entrant applicant simply needed to show that they had potential to fish successfully and were owned and run by HDIs and they would be competitive contesters for rights based on points.

In total 83 applications were received for rights in the HDST, 53 from MTR holders and 30 from new entrant applicants (GPR HDST, 2006, 8). Once the process was completed the Department decided to award rights to 46 of the MTR holders and none to the new entrants. The reasons stated for this were based on the reductions in TAC as well as the relatively poor standard of new entrant applicants (GPR HDST, 2006, 24).

Once rights had been allocated the Department assigned quota to each of the successful applicants. It was at this stage that a significant distribution from larger to smaller firms took place. Two pools of quota were established. Pool 1 equated to 10% of the 2006 TAC and was made up of quota taken away from applicants based upon their score; where those scoring lower would be penalized more. Pool 1 was distributed back to smaller applicants who had scored well under the investment, jobs and transformation criteria. In this way larger firms were directly disadvantaged. Pool 2 was made up of 400 tons subtracted from each applicant regardless of size and redistributed amongst the rights holders according to their relative score in the application process (GPR HDST, 2006, 25).

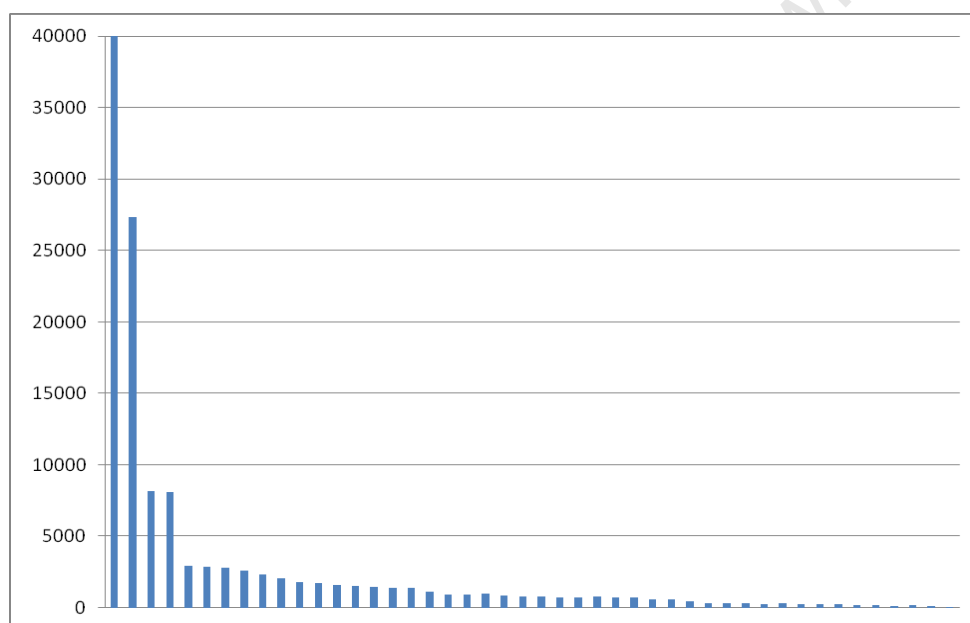


### 3.3.2 The outcome of the LTRs

#### 3.3.2.1 HDST

Appendix 3 shows the list of successful applicants in the LTR allocation process, their registered vessels, allocated quota amounts, and their scores achieved according to the criteria specified in the process (GPR HDST, 2006, 28-30).

The graph below shows the distribution of quota in the HDST following the LTR allocation. The largest four rights holders in order of their percentage allocation are I&J (31.92%), Sea Harvest (21.82%), Atlantic Trawling (6.51%), and Foodcorp (6.46%). All other rights holders were allocated shares smaller than 2.5% of the quota, 13 of which were allocated between 500 and 1,000 tons and 15 less than 500 tons.



**Figure 3:** Distribution of quota in the HDST following the LTR allocation  
(Data used from GPR HDST, 2006, 28-30).

In contrast to the 5% of quota that was reallocated during the MTR process, 27% was reallocated during the LTR process. Sixteen percent of this was reallocated to applicants who were highly transformed and performed well over the MTR period. Historically Disadvantaged Individual ownership of the TAC increased from 25% during the MTR process to 43% when the LTR rights were issued. Fifty five percent of top salary earners are HDIs as are 54.32% of company directors and on average 75.17% of the skippers employed are HDIs. Ninety percent of all individual employed are HDIs (GPR HDST, 2006, 26). These advances in transformation are not solely due to the external redistribution of quota but also due to the

internal transformation of the larger firms. Currently the two biggest rights holders, I&J and Sea Harvest, are 25% and 77.88% HDI owned respectively.

Despite its oligopolistic harvest structure, the HDST sector has therefore made extensive progress in its transformation profile.

### **3.3.2.2 HIST**

Appendix 4 shows the list of successful HIST applicants after the LTR allocation process, their registered vessels, allocated quota amounts, their score achieved according to the criteria specified in the process, as well as their overall score for the transformation criteria of the allocation (GPR HIST, 2006, 29-33).

The Department chose not to allocate any rights to new entrants and renewed all rights of those who held MTRs. Instead of changing the rights holders themselves the Department aided transformation by reallocating quota from those with relatively low scoring applications to those with high scores. In total 24% of the inshore hake TAC was redistributed with 15.19% going to smaller rights holders with high transformation profiles and good performance records through the MTR period. Historically Disadvantage Individual ownership of the HIST TAC improved from 37% in the MTR allocation, to 48.76% after the LTRs had been allocated (DEAT, GPR HIST, 2006, 27-28).

### **3.3.2.3 HLL**

As with the HDST and HIST the Department chose not to allocate any rights to new entrants in the HLL. After rejecting 12 applications of MTR holders due to applications that were defective or did not meet the minimum requirements, it granted rights to the remaining 132 applicants. In the General Reasons for the Decisions on the Allocation of Rights and Quantum (referred to as 'GPRs') for the HLL sector the Department states that "the level of transformation and quality of transformation, in the sector remained satisfactory". After the LTR allocation process 91.3% of the TAC had been allocated to HDI controlled entities (DEAT, GPR HLL, 2006, 24).

### **3.3.2.4 HHL**

In the HHL sector rights were allocated to 25 MTR holders and a further 14 to new entrant applicants. During the MTR period only 26% of the rights holders were majority HDI owned or HDIs themselves. After the LTR allocation 32% of the successful MTR applicants and 28.6% of the new entrant applicants were majority HDI owned or HDIs themselves (GPR HHL, 2006, 14).

### **3.3.3 Fishing charters: can they help the hake fisheries?**

No Minister or Deputy Director General of fisheries has yet imposed transformation charters onto the fishing industry whereby applicants would be judged according to an external BBBEE benchmark. In the General Policy (2005, 29) the Department stated that where there is such competition for rights, charters and benchmarks are inappropriate tools to effect transformation. This statement in the General Policy is now being contradicted by DAFF, and in the Minister's budget vote speech of 2011 the Minister stated that "The Fisheries Sector Charter is being developed and will be implemented in the medium term [to be implemented in the 2014/2015 financial year] to ensure the achievement of transformation imperatives within the fishing sector" (DAFF, 2011). The stated reason is that the industry is still in need of transformation, though, as the numbers show, such transformation imperatives are being achieved without the need for charters.

A fisheries charter itself is not a threat to the stability of the industry as it would depend entirely on how the BBBEE scorecard was reweighted. When interviewed the CEO of Oceana, Mr. F. Kuttel, commented that the charter could work well in the fisheries sector if it was designed to allow firms to enact transformation without threatening the structure of the industry. In his opinion transformation scores in the fisheries should be less focused on ownership and more weighted towards factors such as skills development, procurement and corporate social responsibility. There should also be scope for points to be awarded to these even if they do not take place within the core company's operations (Kuttel, pers. com. September 2010).

The growth in fish stock cannot keep up with population growth in fishing communities. There is therefore a need for such communities to diversify their sources of income and to support their livelihoods from more than just fishing operations. Kuttel's suggestion is that fishing companies should be recognized, through the Fisheries Charter, for work done in

promoting training, employment, and business support within these areas regardless of whether this falls under fishing operations or not. Kuttel cites the example of the Oceana processing plant in Lambert's Bay which closed as a result of declining catches in the area; however the space was redirected to process potato chips and therefore mitigated the impacts of reduced fishing operations on employment in the area (F. Kuttel, pers. com, September 2010).

If weighting was designed to allow firms to enact transformation according to the BBBEE criteria, while still maintaining the large quota holdings of the established firms, a Fisheries Charter would be able to support the industry and the goals of the State. It would maintain the value chains of processing, distribution, and marketing while still supporting the empowerment of local communities and thus not be a threat to the economic or environmental sustainability of the industry. A fishing charter that takes account of the unique characteristics of the fishing industry would be needed to encourage real empowerment. One drawn up without regard to the specific challenges faced by fisheries would be at risk of increasing the transformation profile but possibly to the detriment of the new HDIs involved in the industry.

### **3.4 Is further transformation needed?**

The stated justification behind the State's policies of further redistribution and fragmentation of the hake fishery are that transformation has not been sufficiently enacted. Despite this claim the results show that in a relatively short space of time the fishing industry has transformed itself from being almost exclusively white owned to nearly 50% HDI ownership and control. In 1994 there were only 300 companies involved in the industry of which only 0.75% were HDI owned. In 2004 with the industry preparing for the LTR allocations this had risen to 5,837 individuals or companies holding fishing rights, 62% of which were HDI owned (van Sittert et al, 2006, 7-8). Indeed BCLME (2005, 20) states that "no other commercial sector of comparative commercial value in the South African economy has comparable levels of black ownership and participation".

The hake fishery was slightly behind the total industry average with regard to transformation but, as stated in the General Policy, redistribution policies should be conscious of the fact that the high capital investment and value chain requirements of the HDST and HIST are not suited to extensive external redistribution. The substantial gains in

transformation figures within these fisheries despite this limitation however, suggests that incentivising firms to transform internally through quota redistribution between existing firms is a feasible alternative option to simple redistribution of rights to new entrants.

Transformation in the hake fishery does not yet reflect national demographics but with only two rights allocation processes having taken place since the current system of distribution by criteria was put in place, the progress achieved so far is substantial. Historically Disadvantage Individual ownership of the TAC increased from 25% to 43% in the HDST and from 37% to nearly 49% in the HIST between the MTR application period and the application period for LTRs. In 2008, Sea Harvest, through a deal with Brimstone, increased their own HDI ownership to nearly 80% (Mail&Guardian Online, 2008) but it will only be in the application for the next round of allocations in 2020 that the industry will accurately reveal how much transformation has taken place over the LTR period. If the same gains that were made over the MTR period are achieved, the hake fishery will come very close to achieving national demographic transformation status without the need for further fragmentation of quota.

Historic performance suggests that the current system of judging applicants by criteria, incentivising firms to transform internally, and only redistributing quota if these firms do not meet the criteria, is sufficient to achieve the desired levels of transformation. Redistribution of non-tradable quota to new entrants or to small undercapitalised operators would have far reaching negative consequences, not only for the economic and environmental goals of the State but also for its social objectives. These consequences are discussed in the following chapter. Incurring such costs is only justifiable if firstly, there is still a need to embark on such policies, and secondly, if they offer net gains. Neither of these requirements seems likely to be met.

## 4. Redistribution

Fisheries management has the challenging task of balancing a triple bottom line of economic wealth creation, environmental sustainability, and social welfare. There are invariably going to be tradeoffs and sacrifices in the attempt to maximize all three but what is important is that policies are not put in place such that the pursuit of one goal is so detrimental to others that it renders the system unstable and threatens the total benefits gained.

### 4.1 Empirical consequences of redistributing quota

Van Sittert et al (2005, 106) state that volatile exchange rates and “populist insurgencies” create a “latent sense of endemic uncertainty and insecurity in the fisheries, favouring short-term profit-maximising strategies and illegal activities detrimental to sustainability”. The so called ‘tripod’ of the triple bottom line goals of fisheries management are not three independent forces; there exists an inherent sequential relationship between them where each forms an important part in the stage of wealth creation and benefits to society. At the source of any success in the industry is the fish stock itself; the resource which supplies the inputs into the industry. This resource is then harvested, processed and sold at various points along the economic value chains along which the industry turns the raw input into a range of products demanded by consumers. In turn these value chains yield social welfare in the form of employment, infrastructure development and wealth creation.

In their current goals for social welfare and transformation the State is at risk of jeopardizing both the environmental sustainability and capacity of the industry to create wealth, thereby also jeopardizing the gains to social welfare. While fragmentation policies are effective at increasing the amount of HDI ownership recorded in the industry, unless the consequences inflicted on economic, environmental, and social outcomes are carefully managed, the policies will amount to nothing more than transformation fronting at the net cost of both the industry as a whole and those persons the policy intends to benefit.

This chapter evaluates the consequences of fragmentation of quota and decentralisation of the hake fishery in terms of each of the three primary objectives.

## 4.1.2 Wealth creation and efficiency

### 4.1.2.1 Value addition

The General Policy defines *value addition* as “those activities that add commercial value to fish, regardless of whether such value is attained on the South African or international market” (DEAT General Policy, 2005, 37). The activities being referred to are all those business operations between the point of catch where the fish is in its natural state to the point of sale where the fish has either been sold as caught or converted into one of hundreds of differentiated consumer products. The MD of Sea Harvest, described value adding as “producing the product as close to how the house wife wants it” (Bezuidenhout, pers. com, November 2010) emphasizing that those firms best able to process their catch are also those best able to meet the demands of the market. Value is created by increasing the per kilogram sale price of the fish through complex processing systems to customize the fish product to best suit the exact needs of the consumer and therefore earn the premium they are prepared to pay for such customization.

The process of value addition does not only include the processing itself but all those operations required to bring the business to a place where it can offer such customized products to the consumer. This includes marketing, well structured finance, legal aspects, logistics and network management.

In its most basic form the value chain starts with the harvesting of the resource, passes it through a series of processing stages and then sells it on to the customer either locally or internationally.

Harvesting simply refers to the process of pulling fish out of the ocean and experienced vessel captains are able to target what the market demands, both in terms of species and size. The harvesting stage of the hake value chain is capital intensive, requires high maintenance expenditures, and has high levels of inherent risk due to the uncertain nature of catch. The entry costs are high, operating costs are largely exogenously determined and the profit margins available are low and uncertain.

Processing is the conversion of raw fish into a product that consumers demand. The scope for variation and adaption in processing is nearly limitless. For the local South African market I&J offers 14 different consumer product types made exclusively from hake. All but one of these have variations in flavour or health additions (such as Fish Fingers with extra omega 3) and three come in different weight options. In total I&J therefore offers 40

different variations of processed hake to the household market. If products for commercial use are added the number increases to 53 (ij.co.za, 2011). Sea Harvest offers a total of 19 different types of hake products to the consumer market and if divisions of flavour and size are taken into account they offer a total of 31 unique products. To the international market they offer premium IQF sea frozen fillets, six different kinds of derivative cuts which can be portioned and divided into pack sizes with customized labels as demanded by the client, nine value added products, three variations of fresh cuts and two types of smoked products. This adds 21 types of products to their customization but if specific adaptations for the foreign clients are taken into account the number of end possibilities is infinite (seaharvest.co.za, 2011).

Processing is not required in order to sell the harvest as a market exists for raw catch, indeed the best and largest of the hake caught command a premium when sold fresh and would lose value if processed inappropriately. However, it is in processing that the most value is added and wealth creation occurs. Successful processing operations require substantial investment into processing facilities, either land based or at sea. A secure and consistent supply of fish is needed such that the processing capital works most efficiently and the firm is able to engage in long term sales contracts that make the processing complexities feasible. Successful processors (especially those with wet-fish plants) have a high degree of flexibility with regard to their final product in order to meet the fluctuating demands of the market and the supply of the sea.

Selling is that stage of the value chain where the firm tries to place the final product in the hands of the highest paying customer. It is where firms try to establish themselves in the market as the best satisfier of the consumer's needs and to maximize their firm specific rents. Successful sellers of processed products have extensive marketing systems and strategies, are able to offer a wide variety of specialization in their products to meet niche needs, establish long term contracts based on secure supply, and manage the complex distribution channels necessary to supply the product both locally and internationally. For South African sellers of fish products this also includes being able to offer the product to international markets at a competitive price relative to other competing nations. In these markets South African firms are price takers and if they cannot supply the product at that price while still making a profit they will not operate profitably within the industry.

It is not necessary for a firm to be involved in all three stages of the value chain, although there are substantial benefits to a firm who is vertically integrated through all three.



Harvesting is a high investment, high risk, and low gains stage in the value chain and for firms to survive in this stage without integration into others they either need substantial financial backing in order to sustain them through loss periods, or they need to diversify themselves across different fisheries to reduce the impacts of stock fluctuations in any one. The rights fragmentation process, while allowing dual or multiple rights in certain cases, has created a situation where most rights holders only have access to one fishery increasing their risk of involvement.

Successful processing and selling, which creates more wealth than harvesting, are dependent on a secure supply from the harvesting stage. For this reason large processing firms have sought to control their sources of supply, either directly through integration or through formal contracts with smaller rights holders.

Full vertical integration, as seen in the larger firms in the hake fishery, allows these firms to organize their harvesting and processing to meet the exact needs of the market, and therefore maximize the rents available from the resource. It has been shown that those companies in the hake fishery who control operations across the entire value chain are able to direct the catch and catch rates of their fleet, while at sea if need be, in order to meet the demands of the market and the firm. The harvesting stage of these operations is able to selectively catch the size and amount of hake needed such that the processing plants run at an efficient and stable capacity year round. They are also able to harvest fish best suited to the product type most demanded by the market at that time.

In this way these firms are able to meet the stringent quality and reliability demands of the foreign buyers and therefore stay competitive in the foreign market. This is only possible due to the levels of vertical integration of these firms and the State's policies of quota fragmentation at the harvesting stage are a threat to the stability of, and wealth created from the entire value chain. Firms have partly been able to mitigate their loss of surety of supply and efficiency by entering supply deals with smaller rights holders. The majority of small rights holders and new entrants into the hake fishery are dependent on the larger vertically integrated firms to be able to create value from their catch beyond the landed value of the fish (Sauer et al, 2003, 42).

The benefits of value addition are not limited to individual firms but apply to the larger economy and social welfare. Firstly, value addition creates substantial wealth creation in the industry. According to Harris & Leiman (2006, 50) the value added from processing is 71% in long lining, 60% in off-shore trawl, and 27% in inshore-trawl. The value addition

process extends the length and complexity of the production process and therefore involves more players and income earners. It also increases the flexibility of a company's operations and reduces risk. A vertically integrated fishing company can either land the fish and sell it fresh, or can process it as a customized product. To do this they will invest in land and buildings, source capital, employ both skilled and unskilled labour, engage in employee training thereby increasing the skills base, employ contracting firms such as cleaners and insurers, and increase the competitiveness of the product in international markets drawing in foreign exchange. Value adding is therefore a crucial part of economic activity. It increases economic growth, provides job opportunities and earnings, and provides incentive for infrastructure development and skills training which impose positive externalities on other industries in the economy. By extending the number of transactions between harvest and sale, value addition also increases the number of players who receive and pay money and therefore increase the length and power of the spending multiplier, passing on more money to more people and creating more wealth and economic activity throughout the economy.

The importance of value addition is recognized in the General Policy which states "value-adding may be rewarded [points towards rights allocation eligibility] because, amongst other things, it stimulates the creation of jobs and wealth" (DEAT General Policy, 2005, 37).

Value addition is not a simple process though, and not a feasible option for all firms as the size and funding required place complex processing plants out of reach for smaller new entrant firms. As stated in Geel et al (2005, i) "Fishing and fish processing are sectors that often demonstrate economies of scale and scope. Big firms and vertically integrated firms are typically able to operate at lower cost and with less financial risk than small operators". Bezuidenhout (pers. com, November 2010) agrees and states that large economies of scale are needed to compete in the fishing industry and refers to Sea Harvest's vertical integration as key to its long term economic stability. He states that 70% of hake is exported and without vertical integration South African hake firms would not be competitive enough to supply such a large quantity to the foreign market. Leslie (pers. com, August 2010) of MCM backs this up saying that quota was not allocated away from the larger operations to new entrants in the HDST sector on the grounds that processing firms needed to maintain their size to be successful in the foreign market.

This kind of industry where sales are reliant on an unpredictable source of supply, and where margins are made from processing and distribution rather than extraction, will

naturally integrate in order to ensure survival. This was evident in the very early years of the hake industry. Leslie (pers. com, August 2010) explains how at first the industry was made up of many smaller firms but soon the market gave way to mergers and larger firms as smaller players struggled to survive the natural fluctuations in the industry. Amalgamation was needed to reach consumer markets inland away from the coast. Shortly after political union of South Africa in 1910 Richard Irvin and Sons, a hake trawling company, paired up with Imperial Cold Storage in a vertical deal that would allow Irvin and Sons to distribute their products throughout the country. Thereafter they merged with the Charles Johnson trawl company to form Irvin and Johnson (I&J) (Ponte & van Sittert, 2007, 442). These mergers were instigated by recognition that money was not made in catching fish but by effectively distributing it to meet the consumer demand and preferences throughout the country.

A more recent example of the difference between small and large firms in value addition was the response of firms after the HDST was awarded MSC certification. Many firms became chain of custody certified but only the big two firms, I&J and Sea Harvest, were able to translate this into MSC labeled products on the shelves overseas (Japp, 2008, 16). Without this ability to capitalize on size and value adding potential, competitive advantages such as MSC certification are made redundant.

As stated by Kleinschmidt et al (2003, 28), “there is a need for certainty and industrial stability for historical and new entrants”. In the entire value chain it is harvesting that demands the highest capital investment, imposes the highest risks, and yields the lowest returns. However, “[it is] impossible for new entrants to invest in processing and marketing due to the small size of allocations” (van Sittert et al, 2005, 12) and therefore further redistribution of permit in favour of smaller new entrants would merely take the risky loss leading segment of the process from the experienced wealthy companies, and hand it to small less experienced and less liquid new entrants.

Geel et al (2005, 17) states that “the use of a quota system that allocates rights to small scale enterprises is not necessarily helpful if the same producers wish to compete and sell into a well-established processing industry”. What this implies for the smaller new entrants is that without the expertise or funding to compete at the final point of sale after value addition, their profit maximizing outcome is to sell the raw resource straight back to the firms that would have caught it had their quota not been reduced to allow new entrants. While at first glance this may seem to meet government’s goals of redistributing wealth

from harvesting to new entrants, this is only the best case scenario and will only result in no net loss if all new entrants were just as successful at harvesting the redistributed quota as the larger firms had been previously. Without the earnings buffer enjoyed by value adding firms, these new entrants operating only at the primary stage will find it more difficult to survive periods of poor catch levels or low market demand. Unless they had entered into a joint venture they would have had to engage in large investment to enter the industry and an unfortunate fluctuation in the stock (or even in the oil price) could leave them not only without income but also mired in debt.

Those new entrants who successfully operate without selling back to the big incumbent firms do so with a different business model. In order to achieve the funding and economies of scale needed, smaller new entrants need to club together and share operations. This is most easily done by use of a freezer trawler as all catch and processing is done at sea. By having all catch and processing done immediately in one location it is easier to ring fence activity and therefore act as one economic unit splitting the revenues in a predefined ratio related to inputs. The use of wetfish trawlers and land based processing would involve greater volumes and mixed processes, making it difficult to track each individual holder's contribution (Kuttel, pers. com, September 2010).

While well suited to amalgamated operations of smaller rights holders, freezer trawl operations do not allow for the same scope and scale of value creation. Generally on freezer trawl operations fish are processed into a narrower range of products, and the potential for adding value, (or in the case of large high quality fish; simply exporting them chilled to foreign markets) is decreased. On freezer trawlers fish are typically machine processed, either skin on or off, into fillets, and sold in bulk 5kg packs. Freezer trawlers are also detrimental to job creation as they have a capacity for about 20 to 25 jobs per 1,000t whereas shore based full processing operations such as those of Sea Harvest operate at about 65 to 70 jobs per 1,000t (Bezuidenhout, pers. com, November 2010). Kuttel (pers. com, September 2010) also points out that there is a threat to South African food security from new entrant conglomerates bypassing the value chain process in order to maximize their income. In the pilchard fishery, for example, smaller players can't afford to put up a cannery and are therefore catching fish primarily for the bait market. This leaves a gap in the local market for cheap tinned fish which is filled by product imported from Thailand. Given the rigidities in the process this makes local food supply vulnerable to foreign production conditions and exchange rate fluctuations.

Geel et al (2005, 5) states that firms with well established processing operations will need to keep their factories full and demand met. The new system of this supply coming more and more from smaller new entrant firms rather than in-house fishing operations is commented on by Kleinschmidt et al (2003, 34), "The lack of capacity within user groups is a key challenge to the success of the new system, both in their ability to run a successful business and to play a meaningful role in collaborative management". South African hake is not needed to keep the local processing operations running and already the industry imports Argentinean hake to fill gaps that local fishing operations can't meet (Geel et al, 2005, 5). If the harvesting leg of the value addition process is not able to offer a secure supply due to failing or startup companies, the larger incumbent firms will turn to other markets in order to source their supply. This would be to the detriment of larger firms, government, new entrants, and the goals of transformation.

From an economic perspective what this policy or redistribution amounts to, even in the best case scenario, is a process of taking earning opportunities away from established industry value adders and giving it to firms who can't add value to the product, create jobs, or generate foreign exchange earnings. It is a policy of redistributing wealth creation from the full value chain and all who benefit from it, to a few fortunate individuals. The net economic benefit in terms of wealth, job creation, and business activity will be substantially lower. The policy benefits a few easily identifiable HDIs or HDI owned firms at the expense of total HDI ownership, employment and wealth in other industries related and unrelated to fishing operations.

#### **4.1.2.2 The ability to handle risk**

The fishing industry is subject to higher levels of risk than most primary sector activities. Some of these risks are beyond the control of the industry, three of the most important being environmental conditions, oil prices and exchange rate fluctuations. Fisheries are especially vulnerable to environmental conditions as the harvest levels of fisheries are almost entirely dependent on how much the sea is willing to offer. While the long term state of the stock can to some extent be controlled through management policies, short term fluctuations in catch rates and profit levels at the harvesting stage are unavoidable.

The exchange rate also plays a large role in determining the competitiveness of the industry in South Africa and fishing industries across the world; either through the relative price of

exports or the price of imports of competitive products. Unlike many other industries, production in the fishing industry is fixed to its natural source and will therefore always be subject to high levels of international trade as the source of production is not able to move. Bross (pers. com, February 2011) explains that South African hake is a premium product in foreign markets and its revenue generated is closely linked to exchange rates and foreign income levels.

These risks are uncontrollable and their severity will always be changing. Controllable but increasingly present risks in the South African fisheries include changes in the resource management strategy, the socio-economic considerations, and the political imperatives (Penzhorn, 1999, 1071). While controllable at management level, these factors are not controllable by individual players in the fishing industry and are driven by the socio-political goals of government. Currently this is especially tumultuous in the South African context and players in the fishing industry have little certainty over the future structure and management of the industry.

The external risks are also at a relative high. The rand depreciation during the MTR period gave the South African fishing industry a competitive advantage allowing it to implement its redistributive policies with relative success. Van Sittert et al (2005, 10) states that the “weak rand has been the guarantor of post-apartheid economic stability in the fisheries” and goes on to say that “the post-apartheid social contract between state, labour and capital rests on this unstable foundation of the export windfall generated by buoyant marine resources and a weak currency. Shifts in either or both of these factors are inevitable over time.”

Since the 2008 global financial crisis foreign incomes have dropped and demand for South African hake has declined, especially demand from Spain; South Africa’s largest destination for hake exports. This turn in the market has left the smaller new entrants in the fishing industry extremely vulnerable; a vulnerability exaggerated by the new structure of fishing rights allocations. Apart from the small-scale fisheries multiple quota holdings are rare (Geel et al, 2005, 41). This means that smaller fishers are vulnerable to fluctuations within a single stock and have no capacity or diversification in harvesting or processing in order to cover the drop in revenue. Geel et al (2005, 11) summarizes this risk element when it says “inherent volatility in the industry [...] necessitates ownership by well endowed or heavily diversified parent companies”. The new fishing rights allocation policies however have encouraged the existence of smaller, less diversified companies who do not have the size of operation, levels

of integration, scope of harvest or range of final product needed in order to adapt to fluctuations in the market.

Ponte & van Sittert (2007, 462) point out that “large capital resources and diversification are essential ingredients for success in the hake fishery. This is needed to spread risk and buffer profits against its endemic resource, market and political volatilities.” New entrants into the fishing industry recruited during a period of economic success during the MTR and LTR allocations are looking for ways to exit the sector (Ponte & van Sittert, 2007, 449). However, the rigid permit transferability rules put in place in the interests of true economic empowerment and ownership are not allowing these players the flexibility to exit the industry and recoup their investments. This has resulted in many of them falling into high levels of debt or being trapped into loss making businesses without the capacity to diversify. While these redistributive policies were sound in intent and worked well when the market was in their favour, due to the inherent risk factors of the industry, these policies have subsequently trapped the investments of new entrants into loss making enterprises. In 2005, Geel et al (2005, 41) warned that the result of these policies would be that new HDI participants could end up worse off and that efficiency could also be sacrificed; outcomes that are both inimical to the State’s goals for the fishing industry.

The HLL and HHL fisheries are perfect examples. These are both low entry cost segments of the hake fishery. In consequence MCM focused much of its redistributive actions within these two fisheries; the low capital requirements created a perception that they were easier fisheries to enter and succeed in than the trawl sector. While initially successful, long lining has been hit hard by the recent financial crisis and hand lining has all but ground to a halt. These fisheries export a higher value of hake than the trawl sectors but with decreased demand and a stronger rand firms now find that Spanish market prices for high quality hake are unable to cover the cost of flying it to them (Leslie, pers. com, August 2010).

The HLL sector meets the redistribution goals of the State but is now calling for a bailout from the HDST sector. The HLL sector, a once a growing and lucrative segment of the industry, has been undone by the first major downturn in the market since the sector’s inception. This is an example of how sensitive earnings in the fisheries can be due to the high levels of risk and an industry poorly structured to handle it. In an attempt to recoup some rents from their issued quotas the firms in the HLL would like those in the HDST to take over their quota allocations until such time as the market recovers. This would pose problems for administration, management, and stock control due to the different effects

each sector has on the fish stock (Leslie, pers. com, August 2010). The recession has been detrimental to both the HDST and HLL fisheries, and while there are minor differences in demand characteristics, it is an example of how the larger more vertically integrated firms are able to survive such risk better than the smaller new entrants. The lucky few who were issued quota in the LTR allocation are now scrambling to try and give it back to the original incumbent firms. Once again it seems clear that a less risky way to implement effective transformation would be to encourage transformation internally within in the larger, more established firms which are better equipped to handle the high levels of risk in the industry.

Fragmentation of rights to the hake TAC has not just increased corporate risk but has also increased the personal vulnerability of individuals entering the industry for the first time. Substantial capital investment is needed to enter the hake fishery and capacity to achieve this is a requirement written into the criteria for application to fishing rights. This outlay of investment often results in applicants committing personal capital or entering into debt in order to meet the permit requirements (Geel et al, 2005, ii). Isaacs (2006, 57) reports that limited access to conventional bank credit often drives hopeful applicants to increase their personal vulnerability by using houses and other personal property as security. This allocation of permits to smaller, less financially stable players has raised the overall economic risk profile of the industry and meant that new entrants “are consequently both more exposed and less resilient than established participants” (Geel et al, 2005, ii). This exposure is not limited to business wealth but includes the personal wealth and security of the individuals entering the industry.

Aside from financial investment, information and institutional requirements such as knowledge of administration requirements of the local and foreign market, reputation amongst foreign buyers, quality standards and legal barriers, are important when trying to break into the HDST sector. The export market is highly institutionalized and often based on long term contracts. Established buyers in foreign markets have specific quality demands, and with a product as perishable as fish, a reputation for quality control can be particularly valuable. It is reported that certain firms can fetch up to a 20% premium on their catch due to their reputation in the buyer market (Bross, pers. com, February 2011). This is one example of how well known and established the South Africa HDST is and foreign buyers, with no interest in South Africa’s redistribution goals, will be reluctant to take on new suppliers if successful deals, which have been developed over years, exist with incumbent firms. Smaller, new entrant firms have to take a very long term view and have the capacity



to sustain themselves through a reputation building period if they wish to become successful (Bross, pers. com, February 2011).

While risk will always be an inherent part of the hake fishery these challenges can be overcome if businesses have the capacity to adapt and adjust along with fluctuations in the risk factors. As Geel et al (2005, ii) points out “big firms and vertically integrated firms are typically able to operate at lower cost and less financial risk than smaller operators”. This makes them more likely to survive the fluctuations and risks in the industry and continue to supply economic and social benefits from to the South African economy. If transformation is to be effective and sustainable it is better done through these larger firms than by breaking them up.

#### **4.1.2.3 Overcapacity and the cost thereof**

Overcapacity in managed fisheries occurs when a fishing fleet is bigger than warranted by the TAC. Overcapacity arises from three sources; an increase in the number of ships or capacity itself, a decrease in the TAC, or a natural increase in the catch rates through technological improvements.

The South African hake fishery is currently in a state of overcapacity. The General Policy states that, “vessel overcapacity is regarded as one of the primary threats to the South African fish stock. It also places additional burdens on the Department both in respect of monitoring and enforcing compliance and managing exploitation of the resource” (DEAT General Policy, 2005, 39). Van Sittert et al (2005, 8) explains how these ‘threats’ are an increase in illegal, unreported and unregulated (IUU) fishing. A 2008 report by Feike estimated the overcapacity in the hake trawl industry to be approximately 15,000 break horse power (Moolla & Kleinschmidt, 2008, 9).

Bezuidenhout (pers. com, November 2010) commented that Sea Harvest’s Saldahna operations, which account for 90% of Sea Harvest’s processing, are currently running at 50% capacity. This is due to the drop in quota size. He commented that rights holders in the HDST have gone from 5 to 53 but the number of factories have not changed from the original five. In terms of overcapacity on the sea he states that Sea Harvest has six wetfish trawlers, five of which are currently tied up due to lack of quota. No fishing vessels are being bought or sold in the market and therefore there is a need to scrap or continue

incurring the costs of maintaining latent capacity (Bezuidenhout, pers. com, November 2010).

This recent overcapacity in the South African fishing industry was largely brought about by the increase in the number of rights holders following the 2001 MTR allocations (van Sittert et al, 2005, 8) and would have been further exaggerated by the 2006 LTR allocations. The policy on rights allocation requires that all rights holders have access to a vessel which led to investments into new capital and refurbishment of old. Apart from the HHL sector, the State did not dictate how much capital was to be allowed into the industry but instead sought to control its use by restricting the TAC and via effort controls (Siyema, 2010, 5).

The Effort Control Model (ECM) was an initiative of the firms within the HDST sector and dictated that vessels are not solely limited by TAC but also by allowable sea days. The ECM works by matching a vessel's harvesting capacity (measured by engine horse power) to its quota allocation. Based on this ratio the amount of time it would reasonably take for this vessel to catch its quota is calculated and a number of permissible sea days is allocated to the vessel accordingly (Siyema, 2010, 44-45). In this way larger vessels do not have a higher capacity to overfish than smaller vessels do.

The consequences of overcapacity in the South African fisheries are twofold. Firstly, it gives firms both the ability and incentive to overfish. Little of the fleet or vessel's running cost is related to the actually tonnage of fish caught and firms will always seek to maximize the rents available from the capacity they hold in order to spread these costs. While legal control methods are in place, incremental overfishing (typically through high-grading the catch) is always possible if the firm has the capacity and motive to do so.

Secondly, overcapacity greatly reduces the economic efficiency of the industry. An increase in capacity to a given supply of resource means that more vessels are deployed onto the sea to capture the same amount of potential fish. Total costs in the industry therefore increase, but the total catch (and therefore the value of catch before processing) remains constant thereby squandering resource rents.

Fishing capital is expensive and vessels are not sub-divisible, however the fish itself is a divisible product. The resulting problems are illustrated in the following example: assume there are two firms; a very large one and a new smaller one. By taking 20% of the quota from the larger firm and giving it to the smaller firm the amount of fish caught has simply been transferred and, assuming no illegal fishing, the total harvest should remain

unchanged. Costs however, do not behave in this way. By taking 20% of the catch from the larger firm, that firm has not now reduced costs by 20%. It is now experiencing overcapacity and still needs to run, maintain and manage the capacity that it has. Its costs therefore fall by less than 20%. The small firm on the other hand has now inherited 20% of the quota and needs to incur the costs of fishing for this stock. However, due to its small size, inability to adapt to risk, and need to have separate managerial operations to the larger firm, its costs may be more than 20% of the original total. The result is that while amount of fish caught has not changed, the cost of catching them has increased and the rents generated have declined.

To exaggerate this issue, revenue change in the opposite direction of costs. In the best case scenario the larger firm will lose 20% of its revenues along with 20% of its harvest. However, due to less secure supply and reduced economies of scale and scope they are likely to lose more. The smaller firm on the other hand will not be able to take advantage of the same value adding opportunities as the larger firm and its revenue increment will therefore not be as high as the 20% or more lost by the larger firm. Net revenue in the industry after redistribution is therefore less than 100% of the original, but costs are more than 100% of the original.

The result of fragmenting non-tradable fishing permit across many operators is therefore excess fishing capacity and a loss of economic rent. There may be other benefits to this situation such as increased employment opportunities and better transformation figures. In the case of employment potential however, unless the survival of the smaller firm is guaranteed and their increase in employment is high enough to cover not just that lost from larger firms' harvesting but also from its value adding, the net result to employment is likely to be negative. With regard to transformation, the result may be that in the short run the level of HDI ownership increases but, as discussed previously in this chapter, the value and stability of this ownership could be compromised, potentially leaving HDIs worse off than they were before.

#### **4.1.2.4 The burden of regulation**

In the General Policy the Department summarizes the methods by which they plan to monitor the tight rules put in place for fishers in the industry and hold firms to them. It states, "The Department has invested in monitoring, control and surveillance ("MCS")

equipment, including vessel monitoring and positioning systems, and has procured state of the art patrol vessels. The Department has further obtained the services of dedicated forensic auditing experts and specialised fisheries prosecutors. The Department will increasingly focus on the prevention of transgressions and on self-regulation. This will be coupled with strict performance monitoring, forensic auditing, co-operation with other regulatory agencies such as the South African Revenue Service and the South African Bureau of Standards [now the National Regulator for Compulsory Specifications] and the application of stricter sanctions, including the revocation or suspension of rights in accordance with the provisions of section 28 of the MLRA” (DEAT General Policy, 2005, 46).

In controlling the behaviour of firms within the industry the fisheries management can make use of either input controls, output controls, or a mix of the two. Output controls are those which restrict the level of output of the product, and are mostly commonly used in the control of the amount of fish caught. TAC quota allocations and by-catch restrictions are examples of output controls. Input controls, as referred to above in the General Policy, are controls used to restrict the amount effort that goes into fishing operations. This includes restrictions on gear, fishing areas, fishing times, and fishing methods. The problem with input controls are that they are difficult to monitor, are subject to an efficiency creep as fishing technology improves to circumnavigate controls, and inflict high information costs on the department due to their tight specification (Geel et al, 2005, 6).

In the HIST sector for example, the policy states that if “the catch of cob taken on any one drag is more than 20% of the sole catch or 2% of the hake catch (by weight) then the vessel must move to an area at least five nautical miles from that fishing position” (Geel et al, 2005, 29). To enforce this kind of detailed control the Department would need to know the exact catch levels by species on every drag of every inshore trawl vessel, and the precise location of the vessel before and after the occurrence of this breach. This is either impossible or extremely expensive to monitor as the vessels themselves have no incentive to report such information, and in South Africa (unlike Namibia) onboard monitors are generally restricted to scientific observation.

The problem with monitoring in fisheries is that fisheries management face incomplete and asymmetrical information (Geel et al, 2005, 11). The exact size of the resource is unknown and reliant on statistical estimates rather than comprehensive catch data, and the fishermen (the subject of controls) are always more informed about catch levels than the resource management (the implementer of the controls).

There is a conflict of interests leading to a principal-agent problem in the management of the fisheries. "The State may be acting in the fishing industry's best interest, but the individual fisherman sees himself competing with others, and strives to maximize his personal welfare at the expense of others in the industry" (Geel et al, 2005, i). The less competition there is, the less such behaviour will exist and the more aligned the goals of the individual firm will be to the goals of the resource management. Leslie (pers. com, August 2010) discusses this in terms of the HLL sector stating that while this fishery meets the goals of easy entry and transformation, MCM acknowledges that it is not ideal because monitoring becomes more difficult as the number of smaller operations increases.

In an industry with increasing competition driven by the inclusion of higher numbers of players the burden of monitoring is only going to increase. The number of rights holders in the South African hake trawl fisheries has increased from 18 when the quota board started operations in 1990 to the 63 who received rights in the LTR allocation (Japp, 2001, 3). This requires a far higher intensity and frequency of patrolling and the capacity of the Department to increase monitoring ability along with growing firm numbers is questionable (van Sittert et al, 2005, 10). Ponte & van Sittert (2007, 458) comments that there "will be no capacity to properly monitor the use and possible abuse of quotas" and that there is a risk that behaviour of fishermen will not be monitored for the full 15 years of the fishing rights allocation.

BCLME (2005, 38) comments that the four year MTRs were short enough to allow incentive for efficient monitoring as well as provide incentive for compliance from the fishermen. The 15 year LTRs may mean that players become complacent expecting that the Department will relax its monitoring further into the rights period. This allows more incentive and room for deviation of compliance and fronting behaviour; where firms report compliant behaviour that does not match their actual behaviour. Geel et al (2005, i) states that "most attempts by the resource managers to rectify this problem [the problem of the incentives of the State being different to the incentives of the fishermen] and maintain the stock of fish at reasonable levels are not only bound to fail but to do so at a cost".

The State's capacity to monitor and adjust the fishermen's behaviour to the condition of the stock and the interests of the industry are severely limited. The size of the fishing stock experiences natural fluctuations and it is difficult to separate the effects of fishing efforts from the natural ebb and flow of the fish population (Geel et al, 2005, 18). This places an

immense burden on the fisheries management, not only to monitor, but also adjust their controls every time there is a significant change in the state of the fish stock.

In an oligopolistic industry restricting the level of fishing effort of individual firms, and therefore maintaining the size of fish stock, directly assures the long term profit margins of the firms. In a competitive harvesting situation this is not necessarily the case as firms have less assurance that their individual actions will affect the fish stock and therefore there is more incentive individuals to increase effort. In an oligopolistic harvesting scenario firms have the incentive and the capacity to self monitor their behaviour and adapt to stock levels. This reduces the burden placed on the State to monitor and periodically adjust both the input and output controls.

The other danger with control adjustment being left in the hands of the State, especially if the chosen instrument is output controls, is that the fish stock may drive them to the limits of their control. By distributing quota to new entrants and diminishing the individual size of the quota held, the State has limited the level to which the TAC can be dropped. A small drop in TAC would not greatly affect the larger firms but for new entrants already battling to reach economic viability from their small allocations, any drop could spell closure as their permits are non-tradable. Having promised and allocated the right to fish, the State would have to be concerned about pursuing actions that could put these quota holders out of business. Fragmentation of rights has therefore made it difficult for the fisheries management to reduce TAC and work in the interests of long term sustainability.

The recent MTR and LTR allocation processes and their associated criteria have added an extra level to the monitoring needed in the fisheries (Geel et al, 2005, 22). The strict set of criteria imposed on firms wanting to enter the fishery is intended to shape the characteristics of firms to meet the economic, environmental, and social goals of the State. In theory this system should work very well but only if firms adapt to meet these criteria perfectly. In many cases however, firms do not have an incentive to do so and it is in their interests to devote resources not to meeting these criteria but to fronting them and finding possible ways around them. This then places a requirement on the State to employ methods of investigation and control that discourage firms from engaging in such behaviour. The combined costs to the State of trying to monitor and enforce the rules and to firms of trying to circumnavigate them are a burden to the economy; they are resources that could have been put towards production and value addition.

A perfect alignment of incentives between a profit maximizing firm and a State aiming at a triple bottom line of economic, environmental, and social goals is unlikely, hence monitoring and control will always be needed. However, in the case of the fishing industry many of the goals of the State are better achieved and more easily monitored in a situation where there are fewer firms each with greater control and capacity over the resource. The flexibility in harvesting location, the natural variations in the resource stock, and the complex requirements of operating in the industry make comprehensive monitoring and management a very challenging task. The fewer nodes there are to monitor the more likely the State is to achieve its objectives.

Geel et al (2005, 76) states, “The stability of a solution decreases as the number of participants rises. In other words, the cost of controlling the industry goes up as the number of firms rises since it becomes increasingly difficult to induce them to act in accordance with management goals.” For any given TAC, the cost of controlling increases directly with the number of firms harvesting it, firstly because management now have more firms to monitor and with which to interact, and secondly because of the decreasing incentive for compliance and therefore the increased need for management.

#### **4.1.2.5 Giving foreign firms a boost**

The fragmentation of fishing rights, along with the high capital entry requirements of the trawl sector, have inadvertently allowed room for the re-entry of previously excluded foreign fishers. While still illegal it is not uncommon that South African fishing quota is controlled and managed by foreign entities, most notably Spanish operators, who then reap the financial and value adding benefits of the South African fish stock. Spain purchases the majority of South African hake but is legally excluded from holding fishing rights in SA waters themselves (Moolla, 2007, 15). Appendix 5 shows the Spanish owned and controlled vessels that entered the hake fishery between 2005 and 2007 (Moolla, 2007, 17).

This re-entry of foreign vessels since their exclusion would not have been as easy were it not for the latest round of LTR allocations. The quota sizes issued to many of the firms in the hake fishery were “unreasonably” small (Moolla, 2007, 14). As of the 2005 LTR allocation, in the HDST sector 28 of the 52 rights holders were allocated less than 1,000 tons per annum; considered loosely to be the minimum economically viable quota amount. Of these the largest was 957 tons and the smallest received only 72 tons. The mean average quota size of

these lowest 28 holders is 499.38 tons and the median 417.52 tons (Summaries derived from GPR HDST, 28-30). As Moolla (2007, 14) states, “economic viability as a standalone entity is simply not feasible in such a high-risk and capital intensive industry”. In a fully exploited and capitalised industry, new entrants have three options when needing to gain access to a vessel; buy a boat, go into partnership with an existing operator in the industry, or contract with an incoming party such as a foreign player (Kuttel, pers. com, September 2010). To ensure a steady flow of benefits from their rights allocation without needing to incur the risk of investing their own capital, many of these small rights holders turn to Spanish vessel owners and operators to provide such capital. Chartering vessels from within South Africa is difficult as the only suppliers are their direct competitors and therefore prices are inflated (Leslie, pers. com, August 2010).

For these small operators the Spanish offer an attractive deal. In order to stimulate its own job creation Spain subsidized fishing operations and the construction of fishing trawlers, resulting in an oversupply in their own waters. The Spanish operators are therefore happy to offer higher payments or give over more than 50% ownership in a vessel and relieve the local rights holder of the need to outlay initial investment spending (Leslie, pers. com, August 2010). South African rights holders are paid upfront on a rand per ton of fish basis. Thereafter they have no right to participate in the management or marketing of the catch and the agreement is typically irrevocable over the full period of the rights (Moolla, 2007, 15).

The result of over-fragmentation is therefore not an empowerment of new entrants but a pay-cheque hand out at the expense of the domestic industry. Instead of building local capacity and spreading wealth it has drawn wealth and value-addition out of the South African economy in exchange for a set monetary income for a select few. Additionally, foreign fishing companies are notorious for IUU fishing. Large amounts of money are made not just from the fishing of the bought ‘paper quota’ but also from using this as a gateway to further poaching and circumnavigation of the laws (Moolla, 2007, 16). This adds pressure to the environmental and sustainability impacts of the fishing operation, increases the burden on the fisheries management and decreases the stability of the industry for existing firms.



### 4.1.3 The environment and sustainability of stock

The stability of the fish stock and its supporting ecosystem is crucial to the South African fishing industry. The rights allocation mandate of the Department however, is putting it under substantial strain and risk of decline. The problem does not lie in the State's interests or intent but rather in that the system designed to manage the fisheries does not complement the sustainability goals of the fisheries management.

The White Paper on the Marine Fisheries Policy of 1997 states "The fisheries policy is founded on the belief that all natural marine living resources of South Africa, as well as the environment in which they exist and in which mariculture activities may occur, are a national asset and the heritage of all its people, and should be managed and developed for the benefit of present and future generations in the country as a whole."

This mandate to ensure that the future value of the fisheries is taken into account is backed up in the General Policy which lays out the principles and obligations that must be taken into account by the minister or delegated authorities when exercising power under the MLRA. It lays out ten principles, five of which cover environmental considerations and the rest address economic growth and transformation. The first two principles state;

"(a) The need to achieve optimum utilization and ecologically sustainable development of marine living resources.

(b) The need to conserve marine living resources for both present and future generations." (DEAT General Policy, 2005, 8)

Politically South Africa is also tied to a number of international agreements and obligations. The World Summit on Sustainable Development of 2002 laid out a number of principles to follow and all countries agreed to undertake to restore fish stocks back to their maximum sustainable yield. The "aim is to protect the ecosystem, using an approach that eliminates the destructive fishing practices, establishes marine protected areas, imposes and supervises time and area closures for the protection of nursery grounds during spawning periods" (DEAT General Policy, 2005, 6).

The Food and Agriculture Organisation's 1995 Code on responsible fisheries, to which South Africa is committed, explains that conservation of the stock is a social, economic as well as environmental concern when it states that "fisheries provide a vital source of food, employment, recreation, trade and economic well-being" (DEAT General Policy, 2005, 7).

The code sets out behavioural principles for conservation and management for ecosystems and biodiversity.

South Africa is also tied to the SADC Protocol on Fisheries. Here it is obliged to ensure sustainable use of shared fish stocks, of which hake is one, with its SADC neighbours (DEAT General Policy, 2005, 7).

The environmental obligations of the fisheries management are translated into the criteria for LTR allocation under the General Policy. The policy states that the delegated authority may reward points towards allocation of fishing rights to those firms who have engaged in environmentally sustainable practices, or funded research towards such practices. The policy selects a few environmental needs that are of special concern;

- To reduce energy and fuel use in factories and vessels
- To reduce by catch and bird mortality
- To reduce light pollution
- To reduce the effects of ballast water release and other marine pollution (DEAT General Policy, 2005, 40)

The State is therefore clear on its goals towards sustainable practices in the fisheries, but implementation is difficult. The goals of sustainability and the current method of advancing the transformation goals through fragmentation of the industry are incompatible and the Department has no directive of the relative importance of these goals. The fisheries management is also challenged by lack of capacity adding to the difficulty of implementing environmentally sustainable policies. Currently the fish stock in the hake fishery is judged to be stable and at relatively safe levels. This data may however, not perfectly represent the current state of the stock as the consequences on stock regeneration of increasing the number of participants in the industry through the MTR and LTR allocations will take many more years to show.

#### **4.1.3.1 Threats to the fish stock**

Threats to the sustainability of the fish stock result directly from illegal, unreported, and unregulated fishing (IUU) that contravenes the regulations set by fisheries management (Moolla, 2007, 2). They are also the result of overly flexible or poorly defined management

regulations which can allow room for participants in the industry to overexploit the resource while operating within their legal boundaries.

Overly flexible management regulations are not an immediate problem in South Africa as the legal framework and awareness of sustainable issues are deemed to be fair (Japp, 2008, 11). Environmental conservation is written in as a priority into the rights allocation policies and the fish stock is regularly reviewed and adjusted accordingly. The threat may however, come with new policies of broadening access to the fish stock which, especially in situations where the TAC needs to be adjusted below levels of economic viability for many firms, may put increased pressure on the Department to not decrease TAC along stock level lines or relax other effort restrictions in place (Geel et al, 2005, 76).

A more immediately obvious threat is that of IUU fishing. Fishing is considered to be illegal when a vessel operates without the State's permission or in contravention of its laws both national and international. Non-compliance with input control regulations such as gear, fishing times, or fishing location would all be considered to be in contravention of the laws and therefore illegal. Unreported fishing is when a vessel fails to accurately report its catch or activity according to the reporting requirements set by the fishery's management. Unregulated fishing is the case where fishing takes place in areas where the regulations of the ship's flag nationality does not apply and is inconsistent with the conservation measures specified by international law (Moolla, 2007, 3).

IUU fishing in South Africa has been blamed for stock collapses in the traditional line fishery, Patagonian toothfish, abalone and most recently is affecting the hake stock (Moolla, 2007, 4). What makes IUU fishing so prevalent is the difficulty in being able to monitor and police the open seas. IUU fishing takes place through a complex web of transactions offshore where catch is spread across, and sometimes processed by, many different vessels before it is brought onto land. This makes IUU activity challenging to track and accurately record (Moolla, 2007, 4). In respect to the hake fishery specifically Geel et al (2005, 18) states that "lack of monitoring makes illegal, unreported and unregulated fishing feasible and profitable".

When evaluating IUU fishing however, it is not enough to simply look at the procedures behind how firms operate in this manner; it is also the industry structures that provide room and incentives for such behaviour that need to be questioned. In this regard, the most recent change, and greatest structural threat to the sustainability of the fisheries, is the broadening of access rights implemented through the MTR and LTR allocations. In particular

the problem lies with the allocation of small, and often economically marginal or unviable, quota (Moolla, 2007, 10).

For many firms the small rights allocations make it unprofitable to harvest their allowable catch as an independent operation, unless market conditions are strong. In order for it to be profitable they need to engage in investment at high risk or go through the complex and uncertain process of forming joint ventures with other small holders of quota. While this may be feasible and in line with the fishery management's goals, it may be less risky, less expensive, and more profitable to instead use the small quota holding as a gateway to IUU fishing. "Incentive to cheat is also higher for firms that are economically marginal, such as a number of new entrants in the pelagic industry. Here there appears to be circumstantial and anecdotal evidence of widespread over-fishing" (Geel et al, 2005, 77). It is not just small marginal firms who offer a threat. Currently the dominant firms in the hake industry have no incentive to practice IUU fishing as they control enough of the TAC to make this behaviour detrimental to their future profit margins. However, were their share of the TAC to be redistributed to a point where the long term relationship between their behaviour and the fish stock was not as strong, their incentives to practice IUU fishing may also increase.

The behaviour of a fisherman who has not been allocated legal access to the fishing stock is easy to monitor; if he or she is on the water it is illegal. The behaviour of a fisherman with a small quota however, is far more difficult to track. The Department needs to have information on the amount of fish being caught, the gear being used, the area being fished, the times spent fishing, the places where catch is landed and the entire flow of fish caught up to the final point of recorded sale. By fragmenting quota sizes the Department has weakened its ability to monitor and convict IUU fishers as well as provided fishers with an increased incentive to engage in IUU fishing.

A common and especially damaging practice of IUU fishing is high-grading. Hake is more valuable per kilogram the larger it is and therefore there is an incentive for fishermen to only land larger fish. Sophisticated trawling vessels and skilled captains are able to target a fish by size, but this is at best inexact, and for most fishermen, especially smaller rights holders, it is very difficult. As monitoring takes place primarily when the fish are landed there is incentive for fishermen, while at sea, to dump smaller fish caught and only fill their quota weight with larger individuals. The result is that more of the fish stock is killed than is landed or recorded. In contrast, among the larger rights holders whose long term profits are

more closely aligned to the condition of the stock, proven high-grading by captains leads to immediate loss of their jobs (Bezuidenhout, pers. com, November 2010).

This outcome also extends to detrimental effects on by-catch. “Smaller players can have an incentive to target by-catch in order to remain economically viable. Certain smaller hake companies appear to have regularly targeted by-catch species when hake seemed scarce” (Geel et al, 2005, 77). An example of this was when the vessel *The Sandile* was seized by DEAT in July 2005. It was then owned by Ntlanzi Fishing Enterprises and licensed to catch hake and horse mackerel for Bato Star Fishing (Pty) Ltd, Algoa Bay Sea Products and Fernpar Fishing Company (all small rights holders). It was seized due to its abuse of by-catch allowances when on one voyage it was alleged to have caught over 300 tons of snoek and only 39 tons of hake (DEAT news, 2005).

IUU fishing will always be a threat, but by fragmenting the quota sizes the Department has opened up the incentive for a flood of IUU activity which it then plans to dam up with legal controls in an industry already difficult to monitor. Only if the incentive and source of such activity is reduced will such legal controls at the end point be effective. Geel et al (2005, 41) states that “long-term local participants in the industry, and those who have invested in it, have more to lose from general non-compliance since, unlike short-term (vessel leasing) or foreign based operators, they do not have the option of easily shifting their capital elsewhere”.

The value adding operations model of larger firms, unlike the simple harvest and sell operations of smaller entrants, also favours the responsible harvesting of the stock. Big companies have factories that need a minimum level of volume in order to function efficiently. Larger firms therefore need to keep the flow of catch volume high and in their given time to fish, it is not in their interest to be selective. Smaller operators however, have a far higher incentive to engage in selective behaviour such as high-grading as their sole value comes from the value and not the quantity of their catch (Leslie, pers. com, August 2010). Another structural characteristic favouring environmental interests is that of time horizons. Bezuidenhout (pers. com, November 2010) states that the larger firms can ride dips in stock levels or allowable catch on the belief that the resource will recover in the future. This allows the Department greater flexibility in using TAC reductions to address stock declines.

Two case studies in the HDST sector show how larger firms with greater security over their fishing rights will act towards more sustainable fishing behaviour; the Marine Stewardship

Council (MSC) certification of the HDST sector and the Effort Control Model (ECM). The MSC certification is awarded to fisheries that meet the MSC standard for sustainable fisheries and in 2004 the South African HDST sector became the only hake sector in the world to receive this certification (Japp, 2008, 1). MSC certification requires firms in the industry to engage in more sustainable harvesting methods and incur the costs of reduced catch and more environmentally sensitive operations. In return companies operating in this fishery are able to promote their product as 'environmentally sustainable' and appeal to the sentiments of the international consumer market. Interestingly, it was not the State's fisheries management that drove the initiative for certification in the HDST, but it was driven by the rights holders within the fishery, especially the two dominating firms (Japp, 2008, 10).

"MSC certification essentially introduced a new dimension to the research and management of the fishery. This seemed difficult for many to accept, particularly smaller rights holders who could not see the benefit (or were reluctant to) of the fishery having MSC certification" (Japp, 2008, 21). This kind of behaviour, initiated by the industry, towards meeting the goals of the State would not have been possible without a largely oligopolistic market structure. The firms' sizes and secure fishing rights meant that they were able to afford the MSC certification process, had the supply chains to take advantage of MSC labeling, had the technology, knowledge, and economies of scale to adjust their fishing operations, and had a profit model long-term enough to allow them to trade-off current reductions in catch for future increases.

In 2008 the South African Hake Deep Sea Trawl Industry Association (SADSTIA) once again initiated a change in the fisheries management towards more sustainable behaviour when they proposed the ECM, implemented and managed by MCM and latterly by DAFF. This limits IUU behaviour such as high-grading or dumping as vessels now have a limited time in which they can make their catch. In this way it changes the value of suboptimal fish caught as there is now a cost to using time to dump and re-catch. It also reduces the incentive to over-capitalize and the margin by which over-fishing can take place as there is no longer any extra benefit to having a more powerful vessel. In every case this model is detrimental to the fishing firms in the short-run but yet was initiated by these firms in order to prevent long-term collapse of the fish stock and their revenue streams. The incentive to engage in such behaviour only exists if the firms can be sure that they will reap the long-term benefits to cover their short-term losses (Bezuidenhout, pers. com, November 2010).

IUU fishing is a serious problem as the costs of IUU fishing to the industry are larger than the value of the fish stock being illegally fished. IUU fishing has detrimental outcomes both ecologically and socially, and is detrimental to all the goals of the State. Excessive IUU fishing reduces the long term stability and rents from the industry, and in the worst cases may result in the entire closure of a fishery (Moolla, 2007, 8). In both these cases fundamental benefits to the South African economy such as wealth creation, foreign exchange inflow, and job creation are impaired.

Environmental factors with regard to the fishing industry are not simply a 'nice to have'. They are the inputs to sustainable production and cannot be sacrificed for short term social gains. If the resource is excessively depleted or in the worst case scenario collapses, the entire industry and all benefits, both social and economic, are jeopardized.

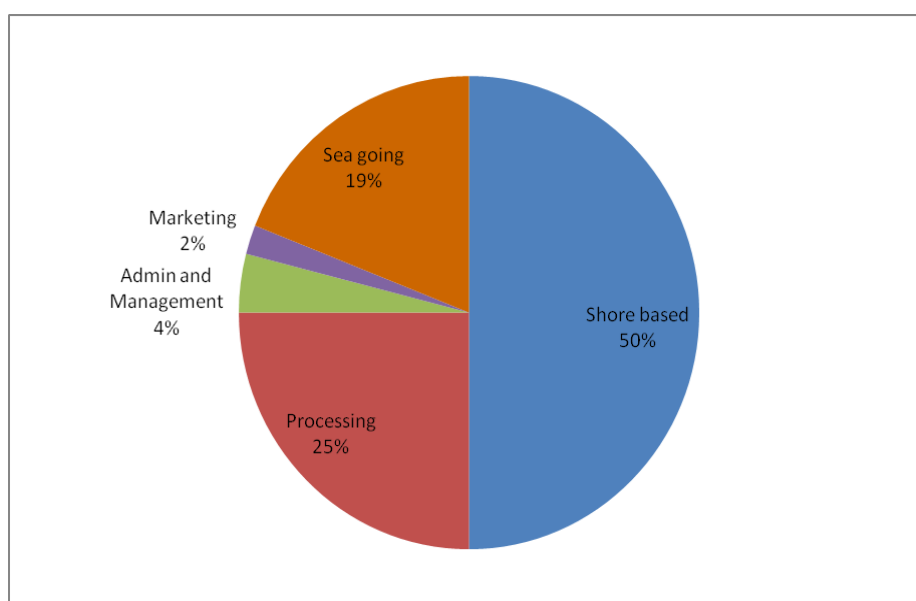
#### **4.1.3 Social welfare**

The negative consequences of redistribution on economic efficiency and environmental sustainability are known but are justified in the pursuit of increased social reform and well-being, the main motivator of which is to empower HDI ownership and wealth. The detriment to economics and environment are therefore only legitimate if the State is able to achieve these social gains. Unfortunately the fragmentation of quota seems to be doing the exact opposite.

The social consequences of fragmentation are that it leads to lower employment, and increases the exposure to risk of new participants. The Department is justified in believing that increased HDI ownership is a more true form of transformation than increased HDI employment. There is a danger however, that HDI ownership is favoured too highly. If policies in pursuit of ownership transformation, such as the current fragmentation of quota, are going to result in significant decreases rather than increases in employment levels, then effectively the empowerment policies are benefitting a select few HDIs at the expense of others and furthering the inequality levels in South Africa.

Excessive fragmentation of quota threatens employment levels by encouraging a general downsizing of enterprises, decreasing their survival rates and reducing the number of value addition processes in the industry. As stated in previous sections larger firms engage in value-adding processing and shore based operations and there is little evidence of new entrants extending their operations beyond sea based harvesting. Sauer et al (2003, 41)

state that due to the vertical integration of the larger firms within the HDST, this sector shows a shore based to sea going employment ratio of 3:1. International trawl fisheries average a ratio of 1:1. A comparison of large firms to smaller firms shows a similar pattern where the vertically integrated firms have a land:sea employment ratio of around 3:1 whereas the smaller new entrants average less than 1:1 (Bross, pers. com, February 2011). Figure 4, derived from Siyema (2010, 12), shows the employment ratios per operation category in the HDST sector. Siyema (2010, 12) indicates a shore based to sea going employment ratio closer to 5:1.



**Figure 4:** Employment per operation in the HDST (Siyema, 2010,12).

Only 19% of employment is created by sea going operations. This is because the HDST sector is characterized by the dominance of two pioneer companies with extensive shore based processing and operations. In the case of such vertically integrated and value adding production chains, sea going employment forms a small percentage of total employment created. Smaller firms are not able to build the same level of value creation and therefore their employment ratios will be more heavily weighted by their sea going operations. This is not perfectly representative as the smaller firms outsource some of their operations where larger firms do not and therefore the difference in shored based to sea going employment ratios between large and small firms will be smaller if these outsourced jobs are taken into account.



Redistribution of quota from vertically integrated to non-integrated new smaller rights holders should not have a large effect on sea going employment. There may be a slight increase if vessel numbers rise, but ultimately if the TAC remains constant sea going employment should remain relatively unchanged. Shore based employment can be expected to drop significantly however, as the industry's ratio of shore based jobs to jobs at sea drops closer to the 1:1 international average. To the extent that smaller firms end up selling their catch back into the processing chains of the larger firms this loss of shore based employment will not be of the same magnitude as the quota redistributed. Not all catch transferred will be sold back into processing though and due to inefficient fishing operations, illegal deals with foreign vessels, and independent sale of the fish as a final product either locally or internationally, the total amount of fish going through the local production chain will diminish. Employment once created through these processes of production will therefore also decrease.

Kleinschmidt et al (2003, 32) explains that larger companies produce branded and packaged goods and employ roughly 66 people per 1,000 tons of fish caught. They go on to conclude that "redistribution of the TAC to small companies would not necessarily have compensated for jobs lost to pioneer companies when quotas were relocated". This opinion is seconded by the fisheries management and the decision to exclude new entrants from the HDST sector during the LTR allocation was based on the justification that "cognizance had to be given to the need for stability by providing large-scale, onshore permanent jobs" (Kleinschmidt et al, 2003, 32).

Kuttel (pers. com, September 2010) explains that Oceana, a large trawling company predominantly in the pelagic fisheries, had a quota for only 1,000 tons of hake and therefore they chose to go into partnership with a few other small rights holders. Together they hold rights for 3,000 tons which is fished using a vessel with a catch capacity of 5,000 tons per year. The vessel does not operate throughout the year. After harvesting the fish is sold without any processing. Kuttel estimates that were the same amount of quota to be held by I&J or Sea Harvest, or a similar type business model, the amount of jobs created from this catch would be about four times higher due to the addition of processing and value adding.

It is not just big business that is warning of the consequences to employment but also the labour unions. The general secretary of the National Certified Fishing and Allied Workers Union (NCFAWU) has stated that they do not support the policy of redistribution in the HDST because it will affect the well-being of the (mostly HDI workers) in the sector. The CEO of

Brimstone, representing BEE holdings of Sea Harvest, has said that the policies of favouring SMEs are counter-productive due to the capital intensive nature of the sector (Ponte & van Sittert, 2007, 452). The small group of potential new quota receivers are therefore the only public body that are not opposed to the fragmentation policies.

Geel et al (2005, 16) looks at the same situation from a micro-economic market structure point of view; "In a competitive market profits are typically low in the long run and the market forces price-taking competitive firms to adopt the most cost efficient long run technologies. There is an international trend towards the use of labour saving (capital intensive) fishing and processing – simple efficiency targeting might consequently mean labour shedding". The labour shedding consequence describes how many HDIs are negatively affected by the empowerment gained by the new rights holders. The benefits from this empowerment however, are not guaranteed and due to the difficulty in succeeding in the hake fishery these benefits are often unlikely. Through the fragmentation of quota the State is therefore trading certain and widespread benefits to the HDI employed, in exchange for uncertain benefits to a select group of HDIs.

Fragmentation also changes the operational incentives of incumbent firms, which in turn may have negative consequences for labour and the spreading of wealth. The response of I&J is a perfect example of this. Due to a lower quota allocation of the LTRs, I&J decided to close their Mossel Bay plant and shift their inshore trawl quota allocation to their deep sea trawl vessels. All hake caught was landed in Cape Town instead of being spread across both plants. Where it had been in I&J's interest to decentralize their operations and spread the wealth created from them, it is now in their interest to centralize all operations in Cape Town. The drop in their share of TAC, therefore caused I&J to adopt an economic strategy that is at odds with the State's goals of widening the impact of wealth created from the fishery (Leslie, pers. com, August 2010).

Those who lose their jobs due to fragmentation are clearly worse off but the outcome for those receiving quota also needs to be evaluated. The Department has only sought to transform one side of the industry; the primary production, or harvesting, stage of the value chain. This is the high risk, low gains side of fishing production and it is the stage now being attached to the newly empowered entrants. While it may move HDIs from employment to ownership in doing so it moves them from a secure source of income to a high risk and often debt ridden sector of the industry for which they are not adequately trained and do not have the sufficient resources to endure. Ponte & van Sittert (2007, 461) state "monopoly

capital's hake trawl interests have been major loss leaders for the past few years". It goes on to say that BEE quota distribution in the HDST is a "detrimental saddling of black capital with the volatile, high risk, loss leading primary production sector [...] but is still effectively controlled by [monopoly capital] through downstream control over logistics, distribution, marketing and branding".

By only empowering new entrants to operate in one stage of the value chain process, this so called break-up of oligopoly power is not a break-up but rather an outsourcing of the most risky and least profitable stage in the fishing process to new entrants while the power chains and wealth creation remain in the hands of the incumbent firms (Geel et al, 2005, 12). HDIs and potential new entrants would be better off by being allocated an ownership share in the incumbent firms and their total success rather than being reallocated a piece of the incumbent firms' operations and left to try and battle it on their own.

Moolla (pers. com, August 2010) argues that "in most cases quota allocation is a noose around the neck. These fishermen earn less than the employees of fishing companies". This is because they have no knowledge of the business market. Traditional HDI fishermen have acquired extensive fishing skills, but their formal business training is often limited. In consequence they may lack the knowledge or skills to maximize potential earnings from their catch.

In a free-market industry structure, when individuals or firms find themselves in a situation where they have entered an industry but cannot make a profit, they are able to sell out and try and recover some of their initial investment before their losses trap them into unserviceable debt. In the fishing industry the Department has closed this exit clause by denying the tradability of quota holdings. This means that the issue of fishing rights to a new entrant and their entry into the hake fishery is not reversible by the new participant. In the case of failure to make a profit there is no escape once the investment has been made, but real returns on investment are highly volatile in the hake fishery and without the required economies of scale, improbable. To profit off such small rights is hard and without a method of escape, those who do not profit may be forced to turn to IUU activity in order to avoid their debt. The empowerment results that the Department needs in order to justify the loss of jobs, value addition, and environmental sustainability as a result of fragmentation, are therefore not realized.

Moolla (pers. com, August 2010) brings up the example of J&J Viserei from Port Nolloth. The fishing company was a conglomerate of eight multigenerational fishermen who joined

together to use the fishing rights they had been allocated. Their bond repayments from capital used amounted to R88,000 per month yet they did not have the training to run such a business. After sustained periods of loss their debt repayment eventually overtook the total value of their quota. Moolla goes on to say that the redistribution policies in the fisheries are achieving “blackness but not empowered blackness”. He states that transformation must shift its focus from mere black involvement to real black wealth and quality of life.

J&J Viserei would have been recorded by the Department as a new HDI entrant and therefore an addition to the successful picture painted of transformation. What these statistics do not show however is the loss of jobs to HDIs who once were involved in the industry, as well as the loss of personal wealth and welfare of many of those new entrants that the policies were designed to help.

## **4.2 Redistribution: creating counter-productive incentives**

The Minister of DAFF has stated that the fishing industry in South Africa is insufficiently transformed. Fisheries management is therefore obligated to implement policies that will further improve the transformation profile of all fisheries. There are two channels in which this can be done; through external redistribution of quota from large incumbent firms to smaller HDI controlled firms, or by allowing the larger firms to transform internally by transferring the greater majority of their ownership and management positions to HDIs. It appears that evidence of the actual transformation profile of the industry has been ignored by the Minister, whether deliberately or due to misinformation, and the Minister has shown a strong preference for encouraging further external redistribution of quota holding. Aside from the empirical evidence of consequences to the industry due to over fragmentation of quota, the negative outcomes of external redistribution are also underpinned by a number of economic relationships. These are;

- The tendency of the industry to naturally centralize
- The difference in the discount rate between small and large firms
- The consequences of misaligned incentives
- The changes in behaviour caused by the changing costs of being caught circumventing regulation
- The spread of externality costs

#### **4.2.1 Natural centralization**

The hake fishery, and the HDST sector specifically, is a mature fishery. The HDST can best be described as a duopoly with two firms being allocated 53% of the quota in the LTR allocation while the remaining 44 firms shared the rest (Warman Fishing Industry Handbook, 2010). This level of concentration has emerged over the long history of the fishery through a series of company merges. Currently these firms are not making monopoly rents as they sell into a competitive local and foreign market and therefore the tendency towards concentration is not driven by pricing incentives. Instead the incentive for concentration is underpinned by the economies of scale and scope needed to ensure survival in the industry characterized by large investments and high levels of risk.

The high capital requirements to operate in the trawl sector, such as multimillion rand vessels and processing plants, result in the need for high economies of scale at the harvesting stage in order to operate at a long run average cost low enough to realize a profit. The fluctuating and unpredictable catch levels mean that firms need to have the capacity to take advantage of periods of high catch rates in order to insure themselves against periods of low catch rates. Reaching these economies of scale is only possible for firms who fish a high quota allocation with multiple vessels.

The fishing industry is characterized by high levels of fluctuations both in the type, size and quantity of fish caught as well as fluctuations in the type, quantity and characteristic of the final product demanded by the market. A firm reliant on selling only one product is therefore vulnerable to any fluctuations both on the supply and demand side of the fishery. Firms with sufficient economies of scope in their ability to target different fish and process it into a variety of products are better able to adapt to changing conditions in the fishery. This is especially true of those firms wanting to successfully sell into a foreign market. European and other foreign markets require supply to be of a high and stable quantity, pass stringent technical and health standards, and to have enough flexibility in processing of customized products to adapt to changes in consumer demand. A firm with a small quota allocation unable to realize sufficient economies of scope and scale, will not be able to make the necessary investment nor catch the required quantity of fish in order to meet these demands on a consistent basis.

### **4.2.2 Differences in discount rates**

The economic goal of a firm is to maximize the present value of its future profit. Particularly pertinent to fishermen is that due to spawning rates of a limited supply of fish, their present behaviour has direct effects on their future earnings. A fishing industry that fishes at a level higher than the MEY of the fish stock will be sacrificing the opportunity to make profits in the future. The present behaviour of the industry within it therefore depends on the relative value its participants place on future versus current earnings and this is determined by the discount rate. The lower the discount rate of firms, the higher the value of future earnings will be relative to current earnings and therefore the greater the incentive for conservative and more sustainable fishing operations.

The discount rate is determined by the security the firm has over its access to future stock levels as well as the prevailing interest rate on borrowing in the fishery. A fishery characterized by a few larger firms, as is currently the case in the HDST, will therefore have a lower discount rate than a fishery characterized by many smaller firms. Larger firms due to their economies of scope and scale, higher probability of survival, and greater control of the resource have a stronger expectancy of future activity in the fishery and access to the fish stock than smaller firms do. They therefore have a stronger incentive to value future rents and their discount rate will be lower. Secondly, larger firms are more credit worthy than smaller firms, due to high profit margins and asset ownership, and therefore their cost of borrowing is lower. When evaluating investments their cost of capital and therefore their discount rate is lower.

The difference in discount rates between large and small quota holders results in larger quota holders having a greater economic incentive to value and protect the future level of the stock and earnings from it. A fishery characterized by a few large quota holders is therefore more likely to fish closer to the MEY than a fishery characterized by many smaller quota holders.

### **4.2.3 Misaligned incentives**

In a fishery where monitoring and control of the fishery's management is perfectly comprehensive, the misalignment of incentives between the State and the fishermen is not a problem; differences in incentives exist but firms have no room to exploit them. The reality in the South African fisheries is however very different. Due to the increase in rights

holders and the constraints of funding the South African fisheries management is unable to deploy comprehensive monitoring of all rights holders and firms have extensive room to circumnavigate control mechanisms if they wish to. If control of fishermen behaviour is not feasible then it is in the interest of fisheries management to best align the goals of the State with the goals of the participants in the fishery. The incentives of the fishermen and those of the fisheries management will only be perfectly aligned if the fishery is harvested by a single firm with a low discount rate. The more participants that are added and the further away from this situation the fishery becomes, the more misaligned the incentives between State and fishermen will be and therefore the greater the incentive for IUU and unsustainable fishing.

Achieving this extreme of one participant is unfeasible in the HDST sector due to the existing duopolistic nature of the sector and quota already redistributed to new entrants. It is unlikely that even if permitted to do so the fishery would concentrate to the point of one fishing firm. It is however important for the fisheries management to be aware that favouring redistributive policies over allowing large firms to transform internally will increase the gap between the incentives of the firms and the incentives of the State. Encouraging a sector that naturally concentrates in structure while transforming internally will better meet the goals of the State.

#### **4.2.4 Expected costs of being caught engaging in IUU fishing**

The objective of any fishing firm is to maximize its profit and this is directly related to the quantity and quality of fish caught. In order to maximize profit it is in the firm's interest to catch the highest amount and highest quality of fish possible. Therefore in the short run in a competitive fishing market it is in the firm's interest to fish to the maximum capacity of its capital and engage in behaviour such as high grading in order to land the highest quality per kilogram caught. There are two reasons that stop firms from engaging in such short run behaviour; the expected opportunity cost of decreasing future rents through short run overfishing (a determining factor of the discount rate), and the expected cost of being caught engaging in IUU fishing practices.

A fishing firm only incurs a cost from IUU fishing if it is caught doing so. These costs include direct fines, legal costs, and loss of revenue due to vessels being tied up or operations prohibited completely. The expected cost therefore depends on the probability of being

caught; the higher the probability the higher the expected cost to the firm and therefore the lower the incentive to engage in such behaviour.

With an increase in the number of individual participants in the industry, the ability of the fisheries management to catch and prosecute fishermen for IUU fishing will decrease. For the individual fisherman this means the probability of being caught decreases and therefore so does the expected cost of engaging in such fishing behaviour. When included as part of a profit maximizing function, as the probability of conviction decreases the expected profit from IUU fishing will increase and therefore so too will the incentive to circumvent the regulations of the fishery. When applied to all firms in the fishery each firm will therefore have an incentive for IUU behaviour and the total sustainability of the fishery will be increasingly threatened. The relationship is exaggerated if this behaviour is adopted by all firms as with each increasing incident of IUU fishing the burden on the fisheries management will rise thereby further decreasing the individual probability of being caught and therefore their cost of doing IUU fishing.

#### **4.2.5 The spread of externality costs**

Any fishing activity will impose an externality cost of decreasing stock levels on the resource, both in the present and future. In the case of only one firm operating in the fishery this externality will be completely carried by that firm and therefore the consequences of its behaviour entirely internalized. With each new participant entering the fishery the consequences arising from impacts on the fish stock are spread and therefore become less internalized by the individual firm. The cost of unsustainable fishing practices therefore decrease and the incentive for each firm to do so increases.

If enough firms are allowed into the industry the spreading of externality costs will result in a tragedy of the commons situation where the profit maximizing function of the firm dictates that it should fish as much of the fish stock as possible in the short run. The profit maximizing function of the group however remains that of the original sole fisherman; to cut back on current harvesting in order to preserve future stock levels. The challenge of fisheries management is to create a situation where the fishermen as a group act with the same incentives as a firm would if it was the only participant in the industry. Currently South African fisheries management is attempting to do this through TAC limits, monitoring and policing. The capacity to do so however is limited and to avoid a tendency towards a



tragedy of the commons situation in the hake fishery the redistribution of quota needs to be restricted to a point where firms are still adequately internalizing the externality costs of harvesting the resource.

### 4.3 The solution: internal transformation

Transformation through quota redistribution decreases economic efficiency and wealth creation, threatens environmental sustainability through increased IUU fishing and less effective monitoring, and, apart from a fortunate few, has decreased net HDI wealth through job losses and increased debt. It breaks up a number of economic relationships that help to internalize the consequences of irresponsible fishing and ultimately makes reaching the goals of the State more unlikely. Despite these negative outcomes the Minister insists that transformation is needed in the industry to balance the demographics of its participants. The problematic outcomes detailed above are not a consequence of transformation but rather of the goal to redistribute quota. The problem therefore is not the goals of the State but rather the system implemented to achieve them.

The solution is a shift from policies of external redistribution of quota to those that emphasize the encouragement of internal transformation within larger firms. The oligopolistic structure existing especially in the HDST sector needs to be left intact. While in many other industries the State seeks to break up oligopolistic and monopolistic market structures to encourage competition, an oligopolistic market structure in the trawl fisheries is more complementary to the stated objections of the Competitions Act, 1998 than it is against it. The Competitions Act States;

“The stated purpose of the Competition Act, 1998 (Act No. 89 of 1998) is to promote and maintain competition in South Africa in order to achieve the following objectives:

1. To promote the efficiency, adaptability and development of the economy;
2. To provide consumers with competitive prices and product choices;
3. To promote employment and advance the social and economic welfare of South Africans;
4. To expand opportunities for South African participation in world markets and recognize the role of foreign competition in the Republic;
5. To ensure that small and medium-sized enterprises have an equitable opportunity to participate in the economy;

6. To promote a greater spread of ownership, in particular to increase the ownership stakes of historically disadvantaged persons.” (Competition Commission online, 2011)

In the HDST sector these goals are better met by large vertically integrated firms than they are by smaller new entrants. This paper has discussed how, through value addition, lower levels of risk, and higher levels of employment, larger firms are better able to promote efficiency, adaptability, employment, social welfare and development in the South African hake fishery. It has also shown how larger firms are better able to participate in the world markets and increase the competitiveness of South African hake products. Internal transformation allows for HDI ownership of established and less risky assets and wealth within the fishing industry thereby encouraging effective development and welfare.

With regard to competitive prices and product choices this paper has already discussed how larger firms offer a great level of value addition and variety in consumer products. The risk of inflated monopoly price control normally associated with centralisation does not apply as “fish is a globally traded product and substitutes exist” (Geel et al, 2005, 76). At the point of sale, South African fishing firms compete as price takers as they are operating in a highly competitive market. It is only at the harvesting stage that these firms exist in an oligopolistic market structure. Geel et al (2005, 12) states that firms in the hake fishery are largely export based and therefore market power is beneficial to the industry. Moolla (pers. com, August 2010) comments that South African firms are too small to make a difference to the international market and therefore it is the international buyers that are controlling prices. In the fishing industry South African consumers are therefore protected from the abusive pricing behaviour normally associated with centralised market power.

The only goal of the Competitions Act that internal redistribution within an oligopolistic market does not meet, therefore, is that of promoting SMEs. The motivation for the promotion of SMEs is that they are traditionally better at creating jobs and spreading wealth than larger firms. However, due to the hake fishery’s volatility, high entry costs, and high risk, SMEs operating in it are less capable of job and wealth creation than are larger, vertically integrated firms.

In many other industries the Competition Commission needs to guard against the trend that concentrated market structures will result in pricing structures that take advantage of consumers and potential competitors. In the fisheries industry it is the reverse.

A similar conclusion is found if the government's redistribution policies are compared to their BEE objectives as detailed by the DTI Strategy Document on BEE. Table 1 shows the weighting scorecard applied to measure the level of BEE. Industries are able to develop their own charters to better suit their individual industry situations currently, however, the fishing industry has no such charter.

BBBEE Element	Weight
<b>Ownership</b>	20%
<b>Management</b>	10%
<b>Employment Equity</b>	10%
<b>Skills Development</b>	20%
<b>Preferential Procurement</b>	20%
<b>Enterprise Development</b>	10%
<b>Socio Economic Development</b>	10%

**Table 1:** BBBEE Scorecard (thedti.gov.za).

1. Ownership refers to the percentage of a firm owned by HDIs. This may either be directly or through other forms of ownership such as a company, CC, trust etc.
2. Management is stated as the percentage of senior and board management that are HDIs.
3. Employment equity, according to the codes of good practice, only refers to number of HDIs as disabled employees or HDIs in senior, middle, or junior management positions. Total number of HDIs employed is not included.
4. Skills development refers to the firms efforts in order to develop the skills of its HDI employees.
5. Preferential procurement refers to the extent that a firm sources its supplies from other BBBEE compliant firms thereby enriching more HDIs.
6. Enterprise development requires that a firm spends at least 3% of their Net Profit after Tax (NPAT) with the specific objective of assisting or accelerating the

development, sustainability and ultimate operational and financial independence of HDI owned enterprises.

7. Socio-economic development requires that firms spend at least 1% of NPAT with the objective of facilitating sustainable access to the economy for HDI beneficiaries.

Only the first two of these elements are not compromised by fragmentation of quota and elements 4 to 7 are especially vulnerable in the wake of smaller value chains and less successful firms. Regarding ownership, an increase in HDI ownership, measured by percentage of shares owned, will be faster through fragmentation than internal transformation as the State can enforce this directly. However, the vast transformation within incumbent firms that has been achieved since the issuing of the MTRs must not be overlooked. While marginally slower than direct redistribution, new HDI shareholding of larger firms requires less investment and exposes HDIs to less risk than equal ownership share in a new entrant firm.

Regarding employment equity, this paper has discussed how total employment will be compromised by external redistribution and given the BBBEE specification for the disabled involvement, firms whose operations are almost entirely sea based will be unlikely to offer such positions. The requirements for skills, enterprise and socio-economic development (elements 4 to 7) all require that the firm realizes economic profits in the long run. Redistribution of quota results in an increased number of smaller firms operating at lower profit margins than the larger incumbent firms. Smaller firms will not be able to raise the spare funding needed in order to engage in spending beyond their direct operations and therefore investments into skills, enterprise and socio-economic development. Such firms will also not have large enough value chains to making preferential procurement effective. Their service demands will be limited to those needed in the catching and landing of fish and all procurement operations involved in the running of processing factories, and the high levels of marketing, distribution and administration processes, will not be required as they are in larger, more vertically integrated firms.

The outcome of sacrificing the socio-economic benefits which elements 4 to 7 of the BBBEE scorecard are designed to achieve is that while new HDI rights receivers are potentially benefitted from redistribution, this comes at a great cost to HDIs involved in periphery processes such as procurement or receivers of development funding. If the true motivation of the State is to improve the status of transformation and empowerment overall, and not

just to better the statistics within the fishing industry alone, then their goals would be far better reached by maintaining the structure of the incumbent firms and redistributing ownership from within.

Regarding other goals of the State, in a fragmented fishing industry there is potential for moral hazard; the agents bearing the risk of misuse (the State, the economy, and future beneficiaries of the resource) are not the agents taking the risk (the fishing firms) (Geel et al, 2005, 17). In the fishing industry the State relies on information reported by the fishing firms, such as the levels of damage to the ecosystem. However, moral hazard reduces the incentive for the firms to report. For the firms, exclusive possession of information on their fishing practices is a source of competitive advantage and there is little incentive to accurately report it to the State.

“A fishery run as a perfect monopoly seeking to maximize profits over time, and secure its monopoly rights, will try to maximize the present value of its economic rents or profits over time. To do this it will have to exploit the resource sustainably” (Geel et al, 2005, i). In terms of resource sustainability, the interests of a monopoly fishery parallel those of the State. The further towards a competitive market the industry shifts, the more divorced these interests become. In a competitive market therefore fisheries managers need to coerce the fishing firms to harvest at the same rate and in the same manner as a fully informed monopoly fisher would, at the least cost (Geel et al, 2005, i). Geel et al (2005, iii) states, “A regulatory regime is only as effective as the science underpinning it and the compliance of those who use it”. The best way to encourage such compliance is to align the interests of the fishing agents with that of the State and this is best done under a monopolistic or oligopolistic market structure.

By fragmenting a well established oligopolistic market, fisheries management are decoupling an important relationship between the harvesting and processing phases of the fishery. The market mechanism that normally defines efficient relationships between different stages in the value creation process breaks down in the fisheries, especially in sectors requiring high levels of capital investment such as the HDST. Harvesters are not willing to make the capital investment to engage in fishing operations if there is fear that they will be squeezed down to normal profits or below by processing firms. This kind of power asymmetry in the production chain is solved by vertical integration between the harvesting and processing firms (Geel et al, 2005, 12).

The benefits of internal versus external transformation do not only relate to firms size but also to security and time span of fishing rights. Fishermen who believe that their involvement in the industry is short term, either due to their rights allocation or personal intentions, will not be willing to pay for monitoring and scientific research. These firms will be more attracted to the short term benefits of IUU fishing and contravention of the management's objectives. Firms with a longer term view to their involvement in the fishery will be more likely to seek the long term benefits of fishing in a sustainable way and investing in initiatives that encourage other firms to do so (such as the ECM).

Overall both in benefits to the firm and social agents, as well as to the goals of the State, keeping the industry structure intact and transforming internally will result in the highest net social, economic, and environmental benefits. Firms operating in an oligopolistic market structure "are able to produce and market their products at lower cost, are better able to sustain short term losses, can offer more secure contracts to workers, and are better able to market their products internationally" (Geel et al, 2005, 12). In addition to that they require less monitoring and regulation, use the resource more sustainably, and provide greater security of success of the wealth reallocated to HDIs.

State intervention will still be needed in an oligopolistic structure as information asymmetries and incentives to circumnavigate legislation will still exist. However, they will exist to a far lesser extent than a competitive harvesting sector and it will be cheaper, easier, and more effective to control for the fisheries management.

Fisheries management are not ignorant to the benefits and need to allow a focus on internal rather than external transformation strategies. The invitation to apply for MTRs states for example, "In the more capital-intensive sectors of the fishing industry, a higher level of internal transformation of current rights holders rather than introduction of new entrants is encouraged" (BCLME, 2005, 14). The incentive for incumbent firms to transform internally is written into the General Policy on fishing rights and all three of the HDST, HIST, and HLL policies mention that new entrants will be favoured over incumbent firms that have not transformed internally (BCLME, 2005, 31 -32).

However, this has not stopped fisheries management from vastly increasing the number of rights holders and fragmenting the fisheries' market structure. If the Department wishes to see their goals met there is going to need to be more emphasis on internal transformation and protection of the market structures that have until now ensured the stability and success of the hake fishery.

## 5. Conclusion

Since the change of government in 1994 the South African fishing industry, like all industries within South Africa, has faced the challenge of undoing the discriminatory wealth allocations of Apartheid rule. It was clearly not feasible to have the ownership of wealth within the industry arbitrarily adjusted to reflect the population demographics of the country. Nonetheless, through the reallocations that took place under the MTR and LTR processes, the Department did make significant progress in this regard, surpassing most other industries in its achievement of transformation. Despite this the Minister of DAFF is still insistent that further transformation in the fishing industry should be actively pursued.

This study focused on one area of the industry, the hake fishery. It soon became apparent that two major constraints faced any redistributive policy; economic efficiency and ecological sustainability. Any policy that ignored the strong rewards to vertical integration and the tendency to natural monopoly would run the risk of squandering economic rents, while a policy that allocated rights without consideration for the incentive systems in place, might threaten the integrity of the hake stock itself.

The architect of social reform policies should be aware of any potential sacrifices these policies are likely to demand in terms of the State's economic and environmental goals. Not only should such sacrifices be reasonable, but any redistributive process should target real long term benefits to industry participants rather than short term rent-seeking. Currently the South African hake fishery is in a fragile position. The TAC remains at an historically low level, oil prices are keeping harvest costs high, and traditionally strong sources of demand such as Spain have been hit by recession. How would it be affected by further redistribution of quota? There is certainly a local market for fresh fish, and some of the smaller quota holders have successfully targeted this in niche areas such as the Cape South Coast. However, it is not clear that this success can be generalized. Economies of scale and scope mean that the size of firms operating in the trawl fisheries is often a primary reason for their success. This is a sector that requires high investment and strong vertical integration to maximize rents and minimize risks in the face of volatile costs, prices and physical stocks. It is this success that the Department would like to redistribute, however it runs the risk that redistribution itself will compromise the fishery's value.

Increased HDI ownership of quota does not guarantee that this transformation has been beneficial to the new entrant and the consequences of policies need to be taken into

account. The transformation goals of the Department state that redistribution policies are in the interests of empowering HDIs but in fisheries characterised by high capital requirements and vertical integration a simple transfer of ownership may have the opposite effect. Many smaller rights holders who have entered the sector since the MTRs have not been successful in their own rights.

The process of rights redistribution was intended to benefit those genuinely committed to the industry, and to discourage paper quota holders who would simply sell off their permit and disappear. However, the heavy investment demands of the hake fishery mean that many who have managed to make a profit did so by forming silent partnerships, either with foreign operators or local incumbent firms. A few made the investments needed and were then left selling their catch without any processing or value addition. The process placed emergent businessmen in situations that typically required them to either make a large and risky investment, or accept a silent place in a partnership, marginalized from real decision making. The transformation numbers of the industry show that the Department has made progress, but the extent to which redistribution has been of power (as opposed to income) might be contested. It seems incontrovertible that some of this redistribution has imposed costs, both to the industry in terms of efficiency, international competitiveness, total value added, and to the physical sustainability of the hake stock itself. Any immediate further redistribution of permit would undermine the State's own goals regarding the economic, environmental and social objectives of the industry.

The MTR and LTR allocation processes showed that incumbent firms confronted by the risk of losing quota are able to implement high levels of internal transformation. This coupling of HDI ownership with stable, existing firms that have proved they can survive an inherently volatile and sensitive industry over time is far more in line with the State's transformation goals than the consequences fragmentation have on new entrants and the industry.

If the State intends to implement effective empowerment, it is better to leave the wealth creating mechanism of the fishing industry intact and spread the wealth generated from it, rather than spread the ownership and threaten the wealth creation and sustainability.



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## 7. Appendices

### 7.1 Appendix 1: Outcome of LTR allocation process.

	Deep Sea Trawl	Inshore Trawl	Long-line
<b>TAC (tons)</b>	124 500	9,000	11,000
<b>Jobs sustained</b>	8 900	1 480	1 495
<b>Sea going jobs per 1000 tons</b>	62	136	164
<b>Average income of crew</b>	R63,000	R35,000	R38,500
<b>Investment in Fixed Assets (insured value)</b>	R2.4 billion	R1.473 billion	R182 million
<b>Value of annual landed catch</b>	R2.2 billion	R60 million	R280 million
<b>Number of Vessels</b>	79	31	64
<b>Number of rights holders</b>	46	17	132
<b>Rights held by HDIs</b>	60%	50%	91%
<b>TAC held by HDIs</b>	43%	37%	
<b>TAC held by SMMEs</b>	42%	69%	80%
<b>Employment ratio of HDIs</b>	90%	90%	90%
<b>Employment ratio of women</b>	40%	42%	
<b>Duration of rights</b>	01 Jan 2006 – 31 Dec 2020	01 Jan 2006 – 31 Dec 2015	01 Jan 2006 – 31 Dec 2020

## 7.2 Appendix 2: Criteria and weighting in the LTRs of the HDST

Criteria	MTR Holder Weighting (/100)	New Entrant Weighting (/100)
<b>Performance Factors (50%):</b>		
Investment	22.5	5
Financial Performance	1.5	20
Value Addition	3.5	4
Jobs	21	5
Safety	1.5	1
Research		2
Fishing Ability		12
Local Economic Development		1
<b>Transformation Factors (50%):</b>		
Directors	0.5	9
Top Salary Earners	4	3
Income Levels	6	
Occupational Categories	0.5	1.5
Ownership	35	32
Skills Development	1.5	1
Corporate Social Investment	1	1
Affirmative Procurement	0.5	1
Enterprise Development	0.5	1
Employment Equity Compliance	0.5	0.5

### 7.3 Appendix 3: Allocation of LTR in the HDST

Applicant Name	Vessel(s) Authorised	Hake Quantum Allocated (Tons)	Score
IRVIN & JOHNSON LTD	ALOE	40003.47	68.15
	ARUM		
	AZALEA		
	BLUEBELL		
	BORONIA		
	CRASSULA		
	FOREST LILY		
	FOXGLOVE		
	FREESIA		
	FUCHSIA		
	GODETIA		
	IRIS		
	LARKSPUR		
	LOBELIA		
	NERINE		
	PROTEA		
	ROXANA BANK		
	STEVIA		
	VERBENA		
SEA HARVEST CORPORATION LTD	OCEAN VICTORY II HARVEST LINDIWE HARVEST SELINA STAALTIND I HARVEST VERONICA HARVEST TAMERA	27338.76	48.2



	HARVEST KIRSTINA HARVEST MARINA HARVEST BELINDA HARVEST DIANA HARVEST FLORITA HARVEST RAMONA HARVEST BETTINA HARVEST ZULA		
ATLANTIC TRAWLING (PTY) LTD	HARVEST KROTOA HARVEST GAVINA HARVEST GEORGINA HARVEST GARDENIA	8158.31	45.45
FOODCORP (PTY) LTD	BEATRICE MARINE MARIA MARINE ISABELLA MARINE	8101.50	65.6
VUNA FISHING COMPANY (PTY) LTD	VUNA ELITA VUNA SHAMROCK	2961.60	66.05
SACO FISHING (PTY) LTD	MARRETJE ARCTIC ZUIDERZEE	2878.30	64.6
VIKING FISHING COMPANY (DEEP SEA) (PTY) LTD	ARMANA LUCERNE ANDROMEDA III	2799.70	61
BATO STAR FISHING (PTY) LTD	SANDILE	2572.80	61.3
EYETHU FISHING (PTY) LTD	MARRETJE ARCTIC ZUIDERZEE	2328.48	68.95

MAYIBUYE FISHING (PTY) LTD	ELKE M	2092.43	62.65
FERNPAR FISHING COMPANY (PTY) LTD	TORALLA MARIE CLAIRE	1773.99	42.85
HANGBERG FISHING COMPANY (PTY) LTD	SVEINN JONSSON	1722.93	58.7
NEW SOUTH AFRICA FISHING ENTERPRISES (PTY) LTD	MONIE MARINE BENGUELLA VIKING	1608.78	58
QUAYSIDE FISH SUPPLIERS (CAPE) (PTY) LTD	LINCOLN	1526.95	58.8
SURMON FISHING (PTY) LTD	COMPASS CHALLENGER	1490.66	55.45
HOXIES (PTY) LTD	MARIE CLAIRE	1396.72	68.65
BLUE CONTINENT PRODUCTS (PTY) LTD	COMPASS CHALLENGER REALEKA	1424.06	60.4
AZANIAN FISHING (PTY) LTD	COMPASS CHALLENGER	1158.59	54.775
COMBINED FISHING ENTERPRISES CC	EXEL	956.76	70.275
CALAMARI FISHING (PTY)LTD	EBHAYI	943.69	55.65
SISTRO TRAWLING (PTY) LTD	SISTRO	990.20	50.4
NTSHONALANGA FISHING (PTY) LTD	ALOE	838.35	55.15
USUTHU FISHING CC	CODESA I	764.87	56.2
COMMUNITY WORKERS FISHING ENTERPRISES (PTY) LTD	MARIE CLAIRE	771.48	62.65

ZIYABUYA FISHING EASTERN CAPE (PTY) LTD	ARCTIC PROTEA	722.86	39.65
IMPALA FISHING (PTY) LTD	EMILE ADRIEN ELIZE	747.44	63.15
SELECTA SEA PRODUCTS (PTY) LTD	LEPANTO	768.05	53.9
BHANA COASTAL FISHING CC	COMPASS CHALLENGER	748.09	69.7
SIYALOKA FISHING ENTERPRISES (PTY) LTD	LEE-ANNE	706.47	36.85
PREMIER FISHING SA (PTY) LTD	REALEKA	591.93	47
ANGLO MAR FISHING RIGHTS COMPANY (PTY) LTD	LEZANDI	579.23	65.15
ALGOA BAY SEA PRODUCTS (PTY) LTD	DONNA MARIA LIGIA SANDILE	485.18	51.3
OFFSHORE FISHING COMPANY(PTY) LTD	EYODIDI	349.85	34.95
J&J VISSERYE BK	DANTAGO	318.56	49.45
RADACO SEA PRODUCTS (PTY) LTD	EMILE ADRIEN	343.13	38.1
PELLSRUS HISTORICAL FISHING CORP CC	EMILE ADRIEN ELIZE	258.96	35.65
LUZIZI FISHING (PTY) LTD	GULLVER	342.01	49.7
DMA FISHING ENTERPRISES (PTY) LTD	MILLENIUM PORTUNITY ESRA CRUZ	273.47	33.65

DYER EILAND VISSERYE (PTY) LTD	BOETIE BERT HAI LIM NO.38	287.28	46.7
KHOI QWA FISHING DEVELOPMENT  COMPANY (PTY) LTD	UKHOZI	253.57	42.95
RAINBOW NATION FISHING CC	CODESA I	216.86	44.4
EIGELAARS BOTE (EDMS) BPK	SANDILE	216.46	33.75
TRADEFORTH 13 (PTY) LTD	UKHOZI	150.44	33.95
J ENGELBRECHT VISSERYE CC	MILLENNIUM	167.00	42.2
EFH WALTERS TRAWLING PTY LTD	HAI LIM NO. 38	118.44	34.95
BP MARINE FISH PRODUCTS CC	HARVEST RAMONA	72.00	45.725

#### 7.4 Appendix 4: Allocation of LTR in the HIST

Applicant Name	Vessel(s) Authorised	Hake Quantum Allocated (Tons)	Overall Score	Transformation Score
IRVIN & JOHNSON LTD	CAPE MACLEAR  ST BLAIZE  ST CROIX  CAPE SEAL  CAPE VIDAL	2948	61.75	27.5
SEAVUNA FISHING COMPANY (PTY) LTD	IMMANUEL  AMSTELDIEP  MANDI  CHRISTELLE	1876	72.4	28.55
VIKING INSHORE FISHING (PTY) LTD	LEONORA  LINDIWE  LEEUKOP  SISTERS	972	55.1	10.9
G&T FISHING ENTERPRISES (PTY) LTD  1978/000212/	ZUIDERZEE  MARY JO	675	65.8	32.9
HERMANUS SEA FOODS (PTY) LTD	SANTA ISABEL  LORELEI  COBELO  DONNA MARIE LIGIA	510	43.65	20
CAPENIS INVESTMENTS (PTY) LTD	BALUGURU	439	62.1	32.15
NKUNGA FISHING CORPORATION	VENTURER	418	64.05	41.15

(PTY) LTD				
CHETTY'S FISHERIES CC	GURUSAM	325	56.25	34.9
SEEHEIM VISSEYE CC	SEEHEIM  MARY ANN  MARY JO	171	31.2	0.5
B.M.C VISSERYE CC	CAPE CROSS	169	46.95	35
DYER EILAND VISSERYE PTY LTD	HAI LIM NO. 38  LORRAINE	148	67.4	19.75
VECTOTRADE 126 (PTY) LTD	STAALKOP	138	47.9	33.25
UMOYA FISH PROCESSORS (PTY) LTD	STAALKOP	103	50.7	34.9
NAMUTONI VISSERYE CC	NAMUTONI	76	37.8	11.5
EZABANTU FISHING CC	BUCCANEER	66	44.45	39
LORCOM THIRTEEN (PTY) LTD	BUCCANEER	52	42.25	20.75
BD OOSTHUIZEN FISHERIES (PTY) LTD	OUPA JOEWIE	25	29.25	4.25

## 7.5 Appendix 5: A list of Spanish vessels active in South African waters

<b>Fishing trawler</b>	<b>Year entered</b>	<b>Registered RSA owner</b>	<b>Beneficial owner</b>
<i>Sandile</i>	2005	Atlanzi Fishing (JV with Lusitania)	Merlus Fishing/Namibia (Julio Lloves/Christian)
<i>Elke M</i>	2005	Partnership between Leon van Niekerk and Boya Chetty	Spanish/Foreign /Namibian (De Gouveia)
<i>Eyodidi (Antares Secondo)</i>	2005	Offshore Fishing	Capensis Trading SL/Spain Vigo (Martinez)
<i>Vesilifia</i>	Sept 2006	Altius Trading	Iberconsa, Vigo/Spain (De Gouveia)
<i>Khulisa Eyethu (Ribadeo)</i>	Feb 2007	Suidor Trawling	Pescanova, Vigo Spain
<i>Antares Prima</i>	March 2007	Shade Wind 16	Capensis Trading SL/Spain Vigo (Martinez)
<i>Echelar</i>	July 2007	Echalar Fishing	Iberconsa, Vigo Spain (Front = De Gouveia)